

Coloured gemstones in eastern DRC: Tourmaline exploitation and trade in the Kivus



Editorial

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Front Cover image: Tourmaline (and other stones) from Rwangara/Shakubangwa, Numbi and Lumbishi sites

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SaveActMine aims to support the efforts of stakeholders involved in the implementation of responsible mineral supply chains. This includes respect for the principles outlined in the OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas, as well as the principles and Regional Certification Mechanism of the International Conference on the Great Lakes Region (ICGLR). In doing so, SAM seeks the realisation of the Democratic Republic of Congo's mining sector as a tool for the attainment of peace and an engine of the development of a people inhabiting an area long affected by the horrors of war, thus breaking the hold of the natural resource curse on the DRC.

International Peace Information Service (IPIS) is an independent research institute, providing governmental and non-governmental actors with information and analysis to build sustainable peace and development in Sub-Saharan Africa. The research is centred around four programmes: Natural Resources, Business & Human Rights, Arms Trade & Security, and Conflict Mapping.

Executive Summary

Responsible sourcing efforts in the Democratic Republic of Congo (DRC) to date have focused predominantly on the so-called 3TG (tin, tungsten, tantalum and gold) sector. Nevertheless, the artisanal exploitation of other minerals including semi-precious gemstones, such as tourmaline, can also make notable contributions to local livelihoods.

At the 9th OECD Forum in May 2015, rising tourmaline exploitation and trade in eastern DRC saw Congolese stakeholders, including SaveActMine (SAM), highlight the relevance of the DRC's coloured gemstone sector to responsible sourcing within the context of the *OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas*.

Following up on these observations, IPIS and SAM undertook a joint research mission in September 2015 to look into tourmaline exploitation and trade in the Kivus. This research confirmed that eastern DRC's tourmaline sector appears to be experiencing notable growth. Since 2012, a rise in gemstone prices has reportedly seen the sector attracting thousands of artisanal miners during boom periods in the Kivus alone. Tourmaline sites visited in the context of the present research in the south of Masisi territory (North Kivu) and around Numbi (Kalehe territory, South Kivu) experienced sizeable spikes in artisanal worker numbers in 2014 and 2015, with four out of five miners in the Numbi area reportedly engaged in tourmaline extraction. This has seen Numbi develop into a notable market for gemstone (specifically tourmaline) trading. Local authorities say that most locally registered traders deal in tourmaline. Here, stakeholders reported the potential for making considerable profits from high quality stones.

Until recently, regulatory neglect and a lack of official trading counters for the purchase and export of gemstones from the DRC, had seen the Congolese coloured gemstone trade develop almost exclusively in the informal sector. As such, exploitation to date has overwhelmingly taken place illegally, with stones leaving the country illicitly for sale in neighbouring countries, such as Rwanda and Tanzania. Rising interest in the sector has now seen the licensing of exporters in coloured gemstones in both North and South Kivu.

Growing interest in tourmaline indicates that the coloured gemstone sector may have the potential to contribute to job creation and economic development in eastern DRC. However, a burgeoning trade in lightweight, high value gemstones among artisanal miners and informal traders can also pose potential risks concerning conflict financing and human rights abuse. Research for this report came across accounts of predation by security actors occasioning forced labour, night exploitation and illegal taxation during at least one artisanal tourmaline mining spike, as well as claims of involvement of undisciplined public security forces in tourmaline exploitation and trade. Moreover, whilst much tourmaline mining in the Kivus is currently taking place in areas benefiting from improved general security, banditry remains problematic and non-state armed groups continue to operate in adjacent localities.

The above factors suggest that tourmaline may no longer be a marginal issue when it comes to responsible mineral sourcing from eastern DRC. Indeed, research for this report also encountered claims that some mineral traders can declare minerals like cassiterite as low value tourmaline to evade tagging requirements and reduce tax payments. This raises questions about tourmaline's significance to ensuring the robust implementation of responsible sourcing for other minerals.

IPIS/SAM research also highlighted a number of conditions potentially favourable to responsible sourcing from certain areas visited in the context of this study. These included improved local security conditions, the existence of validated and iTSCi monitored sites in the vicinity, and increased awareness of OECD due diligence requirements among stakeholders, including efforts to engage on issues of OECD compliance, amongst others.

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List of Abbreviations

3TG	Tin, tantalum, tungsten and gold
ANAVPC	<i>Association de Négociants, Acheteurs et Vendeurs des Pierres de Couleur</i>
ASM	Artisanal and small scale mining
BSP	Better Sourcing Program
CEEC	<i>Centre d'Expertise, d'Evaluation et de Certification</i>
COOPERAMA	<i>Coopérative Minière des Exploitants Artisansaux de Masisi</i>
COPAMIHANUBU	<i>Coopérative des Exploitants Artisansaux Miniers dans les Hauts Plateaux de Numbi-Buzi</i>
DIVIMINES	<i>Division des Mines</i>
FARDC	<i>Forces Armées de la République Démocratique du Congo</i>
ITOA	<i>Initiative de Traçabilité de l'Or d'exploitation Artisanale</i>
MUBI	<i>Etablissements Mushagalusha Biringanine Augustine</i>
OECD	Organisation for Economic Co-operation and Development
POLIMINES	<i>Police des Mines et Hydrocarbures</i>
SAESSCAM	<i>Service d'Assistance et d'Encadrement du Small Scale Mining</i>
SAKIMA	<i>Société Aurifère du Kivu et du Maniema</i>
TUUNGANE	<i>Coopérative Agro-Pastorale et Minière Tuungane</i>
UN	United Nations
ZEA	Artisanal Exploitation Zone

Introduction

The artisanal mining of tourmaline and other coloured gemstones from the Democratic Republic of Congo (DRC) dates back some 90 years. Tourmaline specifically has attracted some interest from international gemstone buyers since at least the early 2000s. At that time, samples obtained from the Kivus led to suggestions that the DRC could have the potential to become an important source of gem quality tourmaline.¹

Nevertheless, regulatory neglect and the lack of an official trading counter for the purchase and export of gemstones from the DRC until recently, has seen the coloured gemstone trade develop almost exclusively in the informal sector. Here, the majority of exploitation takes place illegally and production leaves the country illicitly for sale in neighbouring countries, such as Rwanda and Tanzania. Through these channels, Congolese stones can reach international markets in Thailand and China, as well as major western markets, such as Europe.

The hereto informal and illicit nature of coloured gemstone exploitation and trade means that State services have yet to secure reliable production and export figures for the sector. However, IPIS return visits to certain sites in South Kivu in 2015 indicate apparent spikes in artisanal tourmaline mining populations over recent years. Concomitant spikes in prices for coloured gemstones, and specifically tourmaline, since 2012, indicate that their exploitation in the DRC may hold some potential not only for job creation but economic development. Indeed, it raises the question of how the coloured gemstone sector might contribute to fostering peace and development in localities that have hereto been economically fragile due to their post-conflict status.

To date, civil society actors and international organisations operating in the DRC have shown little interest in the issue of coloured gemstones. This is despite the fact that they can pose the same risks as the 3TG sector regarding conflict financing and human rights abuse.² In this regard, the *OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-affected and High-risk Areas* retains its relevance as a guide for responsible sourcing efforts in the coloured gemstones sector, despite the lack of a specific supplement for gemstones.

In this context, interested parties have started to look into the merits and viability of establishing a responsible supply chain for coloured gemstones from the DRC. To better inform such considerations, the present study seeks to map the exploitation and trade of tourmaline from mine sites at two principal localities situated on either side of a tourmaline mineralised vein running along the border between North and South Kivu, in the Masisi and Kalehe territories, respectively.

The core objectives of the research were to garner insight into the dynamics of the tourmaline trade in the Kivus, including its geographical distribution, key stakeholders and conditions at mine sites, as well as an indication of the present level of conformance of existing tourmaline producing sites with OECD Due Diligence standards.

WHAT IS TOURMALINE?

Tourmaline is a gemstone mineral that comes in a wide variety of species, including rubellite, elbaite and schorl. The different properties of these species can give tourmaline a variety of uses, depending on the type and quality of stone. Gem quality tourmaline can come in a diverse range of colours, including bi-colours, as well as a wide range of sizes. This, and its cutting versatility means that it is principally used as a gemstone for use in jewellery (for high quality pieces), as cabochons, or for beading (for smaller stones). Aside from being of potential interest to gem collectors and jewellers, tourmaline's pyro-electric and piezo-electric properties also gives it some industrial, scientific and technological uses.

¹ W.S. Simmons & A. Falster, "Gem tourmaline from Congo", *Gems and Gemmology*, Fall 2004, p.263. The article notes that testing around this time indicated the existence of stones with compositions ranging from elbaite to liddicoatite and possibly rossmanite.

² For example, in 2013, IPIS teams identified taxation at the notable tourmaline mining site of Kyoboyi, Manono territory, Katanga (now Tanganyika) by undisciplined elements of the FARDC.

This report has been split into four main sections: research findings are presented in parts I (The tourmaline trade in the Kivus), II (Tourmaline mine site findings from North Kivu) and III (Tourmaline mine site findings from South Kivu). These parts are followed by a summary of some of the principal findings regarding the potential for the establishment of responsible sourcing from the region and some suggestions for areas in need of further work in this regard.

Methodology

This research has entailed the collation of both quantitative and qualitative data using desk and field-based methods. Following preliminary desk research, fieldwork was undertaken between 14 and 28 September 2015 by a core team of four researchers from IPIS and SaveActMine. This fieldwork was subsequently followed up with desk-based interviews and email communications during the drafting of the present report.

Team composition: During the first week of the visit, this team was composed of two Congolese researchers from SaveActMine and IPIS, respectively, and two European IPIS researchers. For the second week of the mission, a Congolese interpreter replaced one European researcher. Whilst the presence of white westerners can influence interviewee responses to questions and the presence of certain persons on site, attempts were made to mitigate this by cross checking information, engaging in follow up questioning, and allowing local researchers to play a key role during interviews.³

Interviews: Interviews were conducted with a broad range of stakeholders. These included state services at the local and provincial level (SAESSCAM, DIVIMINES, Ministry of Mines, POLIMINES and CEEC), as well as those involved in the exploitation and commercialisation of tourmaline gemstones (miners, cooperatives, traders, traders associations, and exporters). No women were interviewed from stakeholder institutions, such as state services, cooperatives or trade associations. Where women were seen on site or at trading centres, one or two members of the team would interview them separately, though such occasions were infrequent. No children were interviewed and interviewees were not remunerated.

Interviews took place in French in Goma, Bukavu, Ngungu, Numbi and on site in the specific mining areas that were the focus of this study. Where necessary, interpretation from French, Swahili and Kinyarwanda was provided by team members fluent in these languages.

The research was presented to interviewees by both SaveActMine and IPIS jointly. It was presented as a preliminary study of the tourmaline sector and the situation at specific mine sites to inform considerations on responsible tourmaline sourcing from the DRC. To ensure that unwarranted expectations were not raised by the presence of the team, the fact that it was not yet clear whether there would in fact be any interest in sourcing from these localities was emphasised during this introduction.

Field observations: Throughout the mission, research interviews were supplemented by field observations on site and in trading centres at the specific localities visited. Whilst the apparent presence of white westerners can influence field observations the splitting up of the team during site walks sought to ameliorate this.

Desktop research and follow up: The research was supplemented by desk-based enquiries into security issues and tourmaline trading in the localities and their surrounds, including follow up interviews and correspondence with regional international traders, as well as information from site visits conducted by IPIS mapping teams in the context of its conflict mapping work for 2015.

³ Whilst some team members had previously engaged with certain Goma and Bukavu-based stakeholders in the course of their ordinary professional duties, none had pre-existing relations with stakeholders at the mine sites visited. Nevertheless, the team's SaveActMine researcher had at the time of the mission been engaged by the main concession holder of the focal area to support its due diligence and traceability work. This gave him pre-existing familiarity with stakeholders and the current situation in Masisi.

Selection of localities for focus in this study

Congo's tourmaline is derived from granitic pegmatites forming part of a central African cluster of cassiterite and beryl-bearing pegmatite fields. In the DRC, these span the Kivus and Katanga, which encompass the Kibara Belt and the Karagwe-Ankole Belt of the Congo Craton, respectively.⁴ Indeed, since the start of its mapping activities in 2009/10 IPIS has recorded the secondary exploitation of tourmaline at number of localities in the Kivus and Katanga.⁵

IPIS site visits in Manono territory, Katanga, in late 2013 highlighted the Kyoboyi site as a notable source of tourmaline, and it seems that at least one Katangan exporter obtained a permit for coloured gemstone exports in 2012.⁶ In North Kivu, gem industry literature has formerly made reference to the Virunga region, as a source of gem quality green, blue, blue-green, yellow-green and pink tourmaline.⁷ The last decade however has also seen the development of tourmaline production at mines around Numbi in Kalehe territory, South Kivu, as well as the more recent development of tourmaline mining in the South of Masisi territory, North Kivu. In this latter region, tourmaline production since 2013 has focused primarily around one site approximately two to three hours walk from Numbi. An initial export licence for the export of coloured gemstones was issued to a Goma-based exporter, in October 2014.



Figure 1: Principal tourmaline production localities in the Kivus (IPIS, 2016)

⁴ In neighbouring Rwanda, gem quality material has been described more recently with occurrences located in the Rusizi district of south-western Rwanda. These deposits derive from the Karagwe-Ankole Belt rendering them geologically related to tourmaline from the area around Manono territory in Katanga. See: U. Henn and F. Schmitz, "Green and Pink Tourmaline from Rwanda", *The Journal of Gemmology*, 34(4), 2014, 344.

⁵ Sites have included Lusirandaka and Miko in Masisi, North Kivu; Mungwe, Fungamwaka and Numbi in Kalehe, South Kivu; and Kyoboyi in Manono, Katanga. Other localities with reports of tourmaline presence (though it is not confirmed whether this is gem quality tourmaline) have included Banro's Kamituga, Lugushwa and Namoya concessions in South Kivu (See, SRK Consulting, NI 43-101 Technical Report Resource Estimation and Exploration Potential at the Kamituga, Lugushwa and Namoya Concessions, Democratic Republic of Congo, 2005). It should be noted that not all reports of tourmaline exploitation necessarily relate to gem quality tourmaline.

⁶ Arrêté Ministériel No.0224/CAB.MIN/MINES/01/2012 du 19 Avril 2012 portant agrément au titre de comptoir d'achat et de vente des pierres de couleur de production artisanale au profit des Etablissements Alpha. It is unclear whether this permit was renewed.

⁷ W.S. Simmons & A. Falster, "Gem tourmaline from Congo", *Gems and Gemmology*, Fall 2004, p.263; U. Henn, "Turmaline aus dem Kongo", *Gemmologie: Zeitschrift der Deutschen Gemmologischen Gesellschaft*, 2010, 111, p.111. It should be noted that there is a lack of clarity around the exact location of these sites, though if present within the parameters of the national park any exploitation of such tourmaline would be strictly prohibited in the DRC.

This research chose to focus on tourmaline sites located in North and South Kivu instead of Katanga. As tourmaline mining in Virunga remains unconfirmed and would in any case be illegal due to the protected status of the Virunga National Park, the study focused on sites in Masisi and Kalehe.⁸ Sites visited in these localities, which are also the two main tourmaline-producing localities in the Kivus, included the following:

Masisi territory, North Kivu	Kalehe territory, South Kivu
Rwangara/Shakubangwa	Fungamwaka I Fungamwaka II Kishanga Chez Madame Lumbishi



Figure 2: Satellite image of terrain around sites covered (Jan 2015)

⁸ The existence of tourmaline mining in Virunga does however warrant further investigation in light of the risk of contamination it might pose to any responsible sourcing effort in the area.

PART I: The tourmaline trade in the Kivus

The tourmaline supply chain

Whilst the DRC has no processing industry or formal gemstone market, the informal trading of stones nevertheless takes place internally between miners and gemstone traders, and between traders themselves at mine sites and trading centres.

The internal tourmaline trade in the Kivus directs the supply chain from mine sites such as those at Numbi and Lumbishi, as well as Rwangara/Shakubangwa,⁹ largely to Goma.¹⁰ At the time of the team's visit, the Ministry of Mines in South Kivu confirmed that whilst there is a general prohibition on the transportation of minerals between North and South Kivu, the transportation of tourmaline from South Kivu to Goma is allowed in light of a lack of entities authorised to export tourmaline from South Kivu.

Nevertheless, in South Kivu, Numbi appears to act as a more localised centre for tourmaline trading. Here, an alley of trading counters is a venue for trade in tourmaline and some other gemstones¹¹ (Annex I, Image A). Miners pass through this alley in the evenings to sell or drop off stones that are either traded between négociants or evacuated from the locality, mostly to Goma. From Goma, stones can either be traded with other négociants, exported through official channels via a registered exporter, or illicitly carried across the border into Rwanda where they are sold to intermediary traders in Gisenyi, Kigali or further afield.

A notable number of tourmaline traders come from South Kivu. Some are registered either with the Bukavu-based trader association, *Association pour les négociants miniers du Sud-Kivu*¹² or its affiliate *l'Action pour la Défense des Droits des Négociants de Numbi* (ADDNN asbl). Moreover, officials with the government export regulator, the *Centre d'Expertise, d'Evaluation et de Certification* (CEEC) in Bukavu reported that they were often brought samples of gemstones for identification and/or valuation. Despite this, at the time of the fieldwork for this report, the team were told that there was no market for tourmaline in Bukavu. A number of stakeholders, including traders and the CEEC in South Kivu asserted that such



Figure 1: Principal tourmaline trade route from North and South Kivu in September 2015 (IPIS, 2015)

⁹ Some stones from Manono territory in Tanganyika province (formerly Katanga) also appeared to be in circulation in Goma.

¹⁰ Whilst this would, on the whole appear to be true, DIVIMINES records on authorisation for the evacuation of minerals from Numbi indicated that a small number of tourmaline evacuations were destined for Bukavu. Moreover, at least one trader operating informally stated that it was easier for him to export stones directly to Arusha from Bukavu.

¹¹ During a stakeholder meeting with ANAVPC members in Goma on 16/09/2015, traders also reported trading in amethyst, aquamarine, rubies and citrine (rare).

¹² Interview with the representative of the *Association pour les négociants miniers du Sud-Kivu* on 26/09/2015.

a market in Bukavu would be a welcome development, and in March 2016 there were unconfirmed reports that a Bukavu-based comptoir had been approved for coloured gemstone exports.

Principal stakeholders in the supply chain

Stakeholders in the tourmaline sector in the Kivus mirror those engaged in supply chains of other minerals:



Figure 2: Stakeholder Pyramid

Cooperatives were operative in both the localities visited by the research team. At Rwangara/Shakubangwa this was the *Coopérative Agro-Pastorale et Minière Tuungane (TUUNGANE)*. At Numbi sites, this was principally the *Coopérative des Exploitants Artisanaux Miniers dans les Hauts Plateaux de Numbi-Buzi (COPAMIHANUBU)*. Both are landowner managed¹³ and are said to include landowners, miners and traders in their membership. At mine site level, miners were overseen by pit captains, who were said to be answerable to specific pit owners or landowners. The localities visited were situated on two concessions for which the *Société Aurifère du Kivu et du Maniema (SAKIMA)* was the legal title holder to all minerals.

State authorities responsible for regulation at mine site and supply route level include the mining police (POLIMINES) for the provision of security and law enforcement, Division des Mines (DIVIMINES) for the issuance of miners cards, collection of statistics and issuance of authorisations, and Service d'Assistance et d'Encadrement du Small Scale Mining (SAESSCAM) for the supervision and support of artisanal mining activities. In Numbi, a special force from the 10th military region, referred to as D-Agri, had also been tasked with ensuring the demilitarisation of mine sites in the Numbi locality from undisciplined FARDC elements.

At trade and export level, stakeholders included small and intermediate traders (*négociants*) as well as buying houses/exporters (*comptoirs*). Traders generally reported belonging to trade associations. At the local level these included the *Comité des Négociants de Numbi*, with a membership that covers traders of all minerals. In Goma, the more specialist *Association de Négociants, Acheteurs et Vendeurs des Pierres de Couleur (ANAVPC)* reported having members operative in both provinces, with some also sourcing from

¹³ This is not unusual, though does mean that further enquiry may be warranted on the extent to which a cooperative adequately represents the interests of its full membership (a matter beyond the scope of this study). Certainly, the elite capture of cooperatives is an issue often raised in the Congolese context, where such institutions can become vehicles for the promotion of local strongmen's interests. For further see, S. Geenen, *African Artisanal Mining from the Inside Out: Access, norms and power in Congo's gold sector*, (Routledge, 2015), p.189.

Manono territory, Tanganyika province. DIVIMINES oversight at trader level includes the registration of traders and the regulation of shipments out of trading centres.

At the time of the field research the *Etablissements Mushagalusa Biringanine Augustine* (MUBI) had been the only licenced and operating coloured gemstone comptoir in the Kivus, though Valko Mining Investments had also obtained a licence to buy and export coloured gemstones. Export activity is regulated by the state valuator, the *Centre d'Expertise, d'Evaluation et de Certification* (CEEC) at provincial level in both Goma and Bukavu.

Regulatory control over the coloured gemstone sector

Regulatory control over the coloured gemstone sector can, when properly administered, bring a range of benefits to the government and private sector alike, such as enhanced revenue and transparent taxation, improvement of conditions for miners and traders, and the prevention of fraud, corruption, conflict financing and money laundering.

To date, the focus of Congolese authorities as regards gemstone exploitation and trade appears to have lain predominantly with diamonds. Nevertheless, over the last half decade, some effort has been made to explore the country's potential for coloured gemstone production. In around 2010 the Congolese government reportedly sought to survey its coloured gemstone resources and raise awareness of the sector.¹⁴ This saw the Congolese authorities despatch personnel to Belgium for training in gemstone valuation, with a further visit for Congolese export service (CEEC) officials to Madagascar to undertake training in gemstone identification in 2013.

Gemstones are not explicitly referred to in the 2002 Congolese Mining Code or in the 2003 Mining Regulations, though provisions of these laws nonetheless apply to the sector much as they would any other. Nevertheless, in April 2011 a ministerial *arrêté* (No. 0138) was passed for the regulation of the exploitation and commercialisation of artisanally produced coloured gemstones.¹⁵ Unfortunately, whilst this decree establishes some framework for regulation of the artisanal gemstone sector, failure to account for the fact that virtually all artisanal production currently takes place outside artisanal mining zones (often on industrial concessions) frustrates its application.

Moreover, ambiguity about the *arrêté's* legitimate application in industrial concessions can create a degree of confusion that contributes to the levying of illegitimate fees. Indeed, as in other sectors, excessive fees and taxes have been reported as a core source of frustration amongst gemstone traders, augmenting incentives to trade illicitly. The absence of a dedicated tax regime for gemstones and this maladjusted legislation appears to have occasioned an ad hoc system for taxation upstream. In addition, a lack of valuation capacity among upstream state services means that even where legitimate taxes are levied, such levies are often either undertaken on the basis of weight only (inappropriate for gemstones) or founded on first party declarations of value made by the traders themselves.

Tourmaline trading in the Kivus

Under Congolese law, all traders are legally obliged to have a trader's card (*carte de négociant*), which can be obtained from DIVIMINES at the provincial level. DIVIMINES records in South Kivu indicated the issuance of 19 *cartes de négociant* in the first semester of 2015. Whilst most traders claimed to have this card, it could not be confirmed that this was always the case, particularly for small traders. In South Kivu, it seemed that a small supplementary fee could sometimes be added to the administrative costs of purchasing a card. The team was told that such cards should ordinarily cost \$320, though traders usually paid \$330.

The team were told by a number of traders that almost all gemstone traders operational in the Kivus are members of trading associations at local or regional level. This usually entailed the payment of a fixed or

¹⁴ Interview with *Centre d'Evaluation, d'Expertise et de Certification* (CEEC) for North Kivu, in Goma, on 15 /09/2015, and interview with CEEC for South Kivu, in Bukavu, on 25/09/2015.

¹⁵ *Arrêté Ministériel No. 0138/CAB.MIN/MINES/01/2011 du 14 Avril 2011 portant réglementation de l'exploitation et de la commercialisation des pierres de couleur de production artisanale.*

annual fee. A number of traders were registered with local trader associations in Lumbishi and Numbi, with some also registered with the trader association in Bukavu. Membership of these associations brought the benefits of representation at the local level, allowing traders to address state authorities and raise issues collectively. An example of this was provided in the form of representations made by the *Comité des Négociants de Numbi* to the provincial Minister of Mines in South Kivu regarding illegal taxes levied by SAESSCAM authorities around Numbi in 2014.¹⁶

Whilst the membership of these local associations is open to traders in all types of mineral, numerous gemstone traders also appeared to be members of the Goma-based *Association de Négociants, Acheteurs et Vendeurs des Pierres de Couleur* (ANAVPC).¹⁷ This association, established by gemstone traders in 2012 to aid the formalisation of gemstone trading, was said to provide a valuable avenue for redress specifically for gemstone traders. Some ANAVPC traders reported that membership of the association facilitated trust between buyers and sellers by providing a network of traders, a forum for dispute resolution, and advocacy support where traders were experiencing harassment from authorities.¹⁸ ANAVPC seeks to represent all those involved in the gemstone trade and is therefore open not only to mid-level traders but also all others “who touch a gemstone”, including miners and exporters.¹⁹ Membership for traders costs \$300 as a one off fee and full membership benefits could only be received with the purchase of a membership card. In Goma, the team visited ANVPC’s offices, used for meetings, and a trade point where precision scales and a gemstone flashlight appeared to be available for use by traders.

Both the TUUNGANE and COPAMIHANUBU cooperatives operational at sites visited in Masisi and Kalehe, respectively, reported that some traders also formed part of their cooperative membership. However, for COPAMIHANUBU this figure was said to be only a fraction of the traders operational in the area.²⁰ It was not possible to clarify the situation regarding TUUNGANE.

Gem grading and pricing

When asked how trade was conducted between Congolese traders, the team were told that modalities could include face-to-face barter at the level of mine site, trading centre and in Goma, or the sending of pictures to buyers, who could then come (often from Goma to Numbi) to collect stones.

Tourmaline pricing is extremely complex and can entail considerable subjectivity, as well as being subject to notable price fluctuations. Much like diamonds, tourmaline prices depend on the clarity, weight (usually expressed in grams), colour and shape of a stone, in addition to prevailing market conditions and fashion. This can make price determination for higher quality stones particularly difficult.

Traders in the DRC appear to have adopted an informal system for gemstone grading comprised of six main categories: Top, M1, M2, M3, M *triage* and *déchets* (see Annex I, Images B to G). Interviews with traders indicated that size, clarity and inclusions were the principal determinants for categorisation within these groupings. Traders generally stated that the issue of colour was left more as a matter of taste in the DRC’s internal trade, though traders who always bought stones directly on site and sold them outside the DRC said that whilst colour did not influence pricing when stones were purchased, it did influence pricing upon sale. Whilst higher quality stones could be traded on an individual basis, most stones are reportedly traded in lots.²¹

Within the DRC, the team was told that pricing was highly subjective depending on the opinion of the buyer, with some buyers (usually those also active abroad) having a greater knowledge of pricing than others. Many traders made reference to the subjective nature of pricing and some alluded to a degree of “roulette” involved in determining the amount of return one might make on a purchase.²² However, there was a general sense among traders that in some cases it was possible to make sizable profits. The

¹⁶ Correspondence dated 3 June 2014 and 9 September 2015 to the Governor of South Kivu and numerous mining authorities from *Action Pour la Défense des Droits des Négociants de Numbi* (ADDNN asbl).

¹⁷ Interview with ANAVPC representative in Goma on 16/09/2015.

¹⁸ Stakeholder meeting with ANAVPC members on 16/09/2015, Goma.

¹⁹ Interviews with traders and ANAVPC representatives.

²⁰ For further, please see the “Organisation on site” section in Part III.

²¹ Field interviews with traders at counters in Numbi on 21/09/2015.

²² Field interviews with traders at counters in Numbi on 21/09/2015.

team heard a few stories of such windfalls, including one alleged sale of a stone from Kalehe territory, South Kivu, for \$1,800 at site level, to be sold for \$6,000 in Goma, with the subsequent buyer allegedly receiving \$26,000 for the stone on the international market.²³ The veracity of such claims could not be confirmed.

When pricing was discussed with stakeholders, those closest to the point of extraction and with the least mobility often appeared to have the lowest comprehension of value. For example, whilst diggers at sites closer to Numbi appeared to have at least some awareness of traders' tourmaline categorisation system in principle, miners in certain localities reported selling tourmaline by weight, as they would cassiterite. This suggested a particularly low level of knowledge among those spoken to, possibly because of the remoteness of the site.²⁴

In general, the team were often given broad pricing for each category of tourmaline by reference to weight with some room for fluctuation. Traders indicated that the size of a stone could affect its per weight price, e.g. one trader stated that whilst a 20 g "top" might be priced at \$200/g, a 1 g top could be priced at \$10/g. In a number of cases, prices stated by different stakeholders seemed broadly to correlate. For example, stakeholders engaged in trading at the Rwangara/Shakubangwa site in Masisi territory, North Kivu, generally agreed that during the boom 1 kg of *déchets* would be priced on site for around \$5-7/kg,²⁵ though was now priced at around 2000 CDF per kilogram, which is just over \$2.

As might be expected, prices for tourmaline varied depending on where the trade took place in the supply chain, with the lowest prices at site level, rising in Goma and then rising further in Rwanda. Moreover, pricing also appeared to vary depending on the origin of the stones from within the DRC. In 2015, stones from Lumbishi were often cited as achieving higher prices than those from other areas for the same category (M1, *M triage* etc.). It seemed that trader interest at the time of the team's visit was focused largely on stones from sites at Numbi and Lumbishi.²⁶

Pre-financing

Artisanal mining exploitation often requires pre-financing to cover the expenses of operations before a mine becomes remunerative. Often traders pre-finance these early stages of a mines' exploitation in exchange for a favoured buying position once the diggers strike the minerals. Likewise, smaller traders can themselves also be financed by larger traders further along the supply chain.

A previous field visit to Rwangara/Shakubangwa by Estelle Levin Ltd (ELL) raised pre-financing as an issue in need of further enquiry in order to determine stakeholders, vested interests and financial flows in the supply chain in this locality. Enquiries were made with miners, traders and exporters during the team's visit but information on pre-financing was not readily forthcoming. Indeed despite general references to cross-border financing from Rwanda, there appeared to be a reluctance to discuss foreign, specifically Rwandan, involvement in the local trade. This may be due to political sensitivity around these issues in the region, as well as an awareness of the prohibition of the involvement of foreign actors in precious gemstone exploitation and trade in the DRC.²⁷

The team found that mining operations at sites around Numbi often appeared to be pre-financed by local négociants. All traders spoken to by the research team, whether in Rwangara/Shakubangwa, Numbi or Goma, claimed that they were not pre-financed by any third party in the purchase of stones. They claimed that price volatility generally made this impossible, rendering it necessary to buy stones with their own funds and then secure a buyer. This was also stated by MUBI, the only operational gemstone licenced exporter at the time of the team's visit. The team was told that a number of traders had lost considerable money as a result of a price drop at the end of 2014, having borrowed funds and

²³ Interview with COPAMIHANUBU President and Vice-President, in Numbi on 21/09/2015.

²⁴ On-site group interview with miners at Lumbishi on 22/09/2015. It should be noted that the group setting of this interview and the proximity of a cooperative representative may nevertheless have affected the quality of responses given.

²⁵ This was generally the response received from ANAVPC representatives and TUUNGANE, as well as local traders and washer women in Rwangara.

²⁶ Telephone interview with informal gemstone trader on 24/10/2015.

²⁷ For example, Articles 3 and 9 of the DRC's coloured gemstone regulations (ministerial *arrêté* No. 0138) require miners and traders of precious stones in the DRC to be Congolese nationals.

invested heavily due to an inflated tourmaline market in 2014. The subsequent price drop left many with stones on which they could not reclaim their investment. This problem seemed further exacerbated by liquidity problems experienced by *MUBI*, who had recently reportedly put further stock purchases on hold due to lack of funds and an inability to sell existing stock.²⁸

Whilst claims concerning the implications of price volatility for tourmaline pre-financing appear to have merit, the absence of any pre-financing in the context of eastern DRC's cash economy seemed difficult to reconcile with the apparently large sums of money that could be involved in tourmaline trading. Indeed, at tourmaline sites in Numbi, the team were told that local négociants would often pre-finance mining operations in part exchange for exclusive purchase rights. This could again require notable capital expenditure despite a volatile market. Some sources claimed that a number of traders operating in Numbi were pre-financed by Rwandan entities. Nevertheless, one informal trader told the team that payment arrangements could vary, with some traders sometimes receiving pre-financing for certain purchases and others not.²⁹

Harassment and illegal taxation of traders

Meetings between SaveActMine and ANAVPC traders in North Kivu in early 2015 highlighted that harassment perpetrated by state services including the Congolese army, police and mining administration authorities is a problem in the gemstone sector. Traders also highlighted concerns about a multiplicity of fees and taxes imposed by these stakeholders at site/trading centre level and at illegal barriers erected on transit routes.³⁰ Interviews with traders in North Kivu confirmed that such fees and taxes persisted, imposing a considerable burden on traders and undermining efforts to formalise the trade.

Traders in South Kivu reported that they were frequently subject to a number of taxes, many of which they believed to be illegal. These were said to include annual payments of 150,000 CDF to the *Division de l'industrie* for the use of weights for weighing tourmaline (reportedly the same scales used for gold), as well as payments to the Congolese Anti-Fraud Service and DIVIMINES.³¹ The levying of taxes by the local branch of SAESSCAM in and around Numbi in particular, gave rise to a formal written complaint to the provincial mining minister in early 2014. This complaint from the *Comité des Négociants de Numbi*³² prompted the deployment of an investigative delegation to Numbi in early July 2014. South Kivu's Provincial Mining Minister has pledged to work on the matter and at provincial level a list of legitimate taxes was reportedly being drawn up to aid transparency on the issue. Nevertheless, stakeholders in Numbi and Bukavu stated that illegal taxation by this service persists. Moreover, a further complaint regarding a number of taxes levied in Numbi and Kalungu was submitted to the Minister in September 2015.³³ This complaint expressed concerns about taxes charged by SAESSCAM, DIVIMINES, and Congolese Anti-Fraud Services, as well as levies charged by the cooperative COOPAMINHANUBU and a 3T *comptoir* operating at Numbi sites. Traders claim that this high level of taxation in the locality risks undermining traceability efforts in Numbi. In addition to the fact that excessive fees and taxes erode profit margins for middlemen, traders assert that the inefficacy of their trader registration cards in protecting them from illicit levies both in trading hubs and on supply routes may further push trade underground.

Tourmaline exports from the Kivus

As with other minerals, Congolese law requires that gemstone exports take place exclusively through a *comptoir* (mineral trading counter). The first official comptoir to obtain a gemstone export licence in the Kivus was Goma-based Mushagalusa (*MUBI*). *MUBI*, which was originally established by ANAVPC members in 2012, works exclusively with gemstones and secured its licence to export on 21 October

²⁸ At the time of the team's visit, traders claimed that the market in Goma had consequently come to a virtual standstill, though some internal trade continued around Numbi.

²⁹ Telephone interview with informal gemstone trader on 24/10/2015.

³⁰ For more about barriers on the supply chain, please see sections on site accessibility in Parts 2 and 3.

³¹ Interview with representative of the *Association pour les négociants miniers du Sud-Kivu* on 26/09/2015.

³² Correspondence dated 3 June 2014 to the Governor of South Kivu and numerous mining authorities from *Action Pour la Défense des Droits des Négociants de Numbi* (ADDNN asbl).

³³ Correspondence dated and 9 September 2015 to the Governor of South Kivu and numerous mining authorities from *Action Pour la Défense des Droits des Négociants de Numbi* (ADDNN asbl).

2014 (renewable annually). This permit was due to expire on 25 October 2015.³⁴ MUBI said that it had made some contact with Tanzanian buyers but throughout this licensing period, had only ever managed to prepare one shipment for export. The *comptoir* stated that a shipment for 10 kg of tourmaline déchets had been authorised, taxed and ready for shipment since December 2014. It stated that in principle, export taxes levied were not prohibitively high, not least because it had successfully negotiated a reduction in the usual tax rate for exports from 3% to 1%.³⁵ However, MUBI reported that the export clearance process had taken so long that the drop in prices in late 2014 meant that it was no longer able to find a buyer willing to purchase at a price that would not leave the *comptoir* with a loss. This resulted in serious liquidity problems with which banks were unwilling to assist. The difficult trading climate for the *comptoir* meant that at the time of the team's visit, its stakeholders were due to consider whether its operations should continue.

The CEEC confirmed that in September 2015 four other *comptoirs* were under consideration for export licences for precious stones.³⁶ An arrêté granting an export license to Valko Mining Investment was issued by the Ministry of Mines in July 2015,³⁷ and the *comptoir* was reportedly in discussions with key stakeholders, such as SAKIMA, regarding gemstone exports at the time of the team's visit.³⁸ Unfortunately, due to difficulties with timing and availability, the team were unable to meet with Valko representatives during the fieldwork.

The requirement that any gemstone export be undertaken exclusively through a *comptoir* was cited as problematic to the trade by a number of Congolese traders.³⁹ These traders felt that this stipulation gave *comptoirs* a monopoly by rendering them the only actors able to legally put stones on the international market. This was said to reduce market competition for stones within the DRC that might otherwise aid traders to achieve higher prices at home. Traders further highlighted that it meant that if the *comptoir* could not find buyers on the international market then Congolese traders' ability to trade up the supply chain was cut off, forcing traders to operate illicitly.⁴⁰ MUBI's inability to continue purchasing stones in Goma was referred to as a factor inhibiting the market there, though the team were told that trade nevertheless continued to take place closer to mine site level.

When asked about their apparent trade monopoly, MUBI representatives highlighted that such a monopoly was purely notional due to the existence of the informal trade. Aside from the issue of export clearance processing times, MUBI stated that pricing was a key factor in its ability to compete with other actors operating informally. It stated that these actors could generally pay higher prices for better quality stones, thus competing with the *comptoir* on price and quality on the international market. When asked about the amount of official production that MUBI had managed to absorb during its operations, *comptoir* representatives estimated this to be a negligible percentage of overall production, with the rest going to the parallel trade. Representatives could not divulge quantities purchased.

The process for exporting gemstones involves the presentation of merchandise for valuation to the CEEC. Some CEEC personnel have received training in gemstone identification and valuation at national and provincial levels. However, CEEC officers reported the need for further resources and training to enable them to fulfil their function properly.

As the value fixer, the CEEC at provincial level (Goma) performs an initial valuation before sending pictures of the merchandise to Kinshasa for a final determination of value.⁴¹ Once value is finalised the goods are then taxed by the CEEC, which transfers the resultant revenues to a variety of services.⁴² These services

³⁴ Interview with representative of exporter MUBI at MUBI offices in Goma on 16/09/2015.

³⁵ The CEEC confirmed that this was a discretionary measure intended to support legal exports.

³⁶ Interview with CEEC director at CEEC offices in Goma on 14/09/2015.

³⁷ *Arrêté Ministériel No. 0746/CAB.MIN/MINES/01/2015 du 13 Juillet 2015 portant agrément au titre de comptoir d'achat et de vente des pierres de couleur de production artisanale au profit de la société Valko Mining Investment*, available at: http://www.mines-rdc.cd/fr/documents/Arretes/2015/A0746_2015.pdf.

³⁸ Interview with SAKIMA in North Kivu at SAKIMA offices on 15/09/2015.

³⁹ Interview with ANAVPC representative in Goma on 16/09/2015; Stakeholder meeting with ANAVPC members on 16/09/2015, Goma; Telephone interview with informal gemstone trader on 24/10/2015.

⁴⁰ One trader highlighted that the market in Rwanda was much more developed and therefore buyers could be found for a variety of different stones making it easier to sell there than in Goma.

⁴¹ Interview with CEEC director at CEEC offices in Goma on 25/09/2015.

⁴² Interview with representative of exporter MUBI at MUBI offices in Goma on 16/09/2015.

reportedly include the *Direction Générale des Impôts (DGI)*, the Central Bank, Customs, *the Office Congolais de Contrôle (OCC)*, DIVIMINES and the CEEC itself. MUBI reported the experience that in order for these services to receive their revenue share, each service was required to attend the CEEC's offices to view the merchandise and certify what they see, thus considerably extending the clearance period.⁴³ As outlined above, this was said to render exports vulnerable to price volatility on the gemstone market by extending the delay between purchase and sale, jeopardising profitability and occasioning liquidity problems. If this is standard practice, therefore, it risks disincentivising trade and export through formal channels.

Illicit trading and export

The team had the opportunity to speak to some cross-border traders who operated without an export license. These traders claimed the costs and administration of securing such a licence were prohibitively expensive.

One trader stated that he would maximise profits by cutting out intermediaries and buying directly from miners at the mine site, who he felt generally had the best stones.⁴⁴ In this trader's view, miners often worked for themselves with the pit captain or landowner. His purchases were often conducted through the pit captain and sometimes through the relevant land or pit owner. He went on to state that exporting stones himself to locations such as Gisenyi and Kigali in Rwanda, and even Arusha in Tanzania (though this was rare) gave him access to a more competitive market environment.

The team were repeatedly told that West African traders from countries such as Senegal, Nigeria and Burkina Faso, had a particularly dominant presence on the Rwandan gemstone market,⁴⁵ with major gem trading centres such as Arusha also proving attractive because of the presence of more international buyers from Asian markets, such as Thailand and China. The team were made aware of one Congolese trader who had also gone to Bangkok himself in an attempt to sell stones but who had had little success and fallen victim to robbery.

Most tourmaline trading by Congolese traders outside of the DRC however seemed to take place in Gisenyi or Kigali. The team were told that border crossings into Rwanda were more difficult on the Congolese side than the Rwandan side. Once in Gisenyi, one trader stated that he would find an intermediary who would know someone interested in purchasing stones to facilitate an introduction. This interlocutor would then take a percentage of any profit made.⁴⁶

Most traders outwardly expressed support for the establishment of a workable formal supply chain. Potential incentives to operate officially appeared to include the potential for enhancing market access and the reduction of risks involved in operating illicitly, e.g. exposure to risk of robbery or pricing disadvantages caused by having to cross international borders with unsold stones.⁴⁷ However, any such system would need to counter wider disincentives to trading officially, including the multiplicity of taxes payable to various state services upstream and export processing times.

⁴³ Interview with representative of exporter MUBI at MUBI offices in Goma on 16/09/2015.

⁴⁴ Telephone interview with informal gemstone trader on 24/10/2015.

⁴⁵ One mid-level African trader stated that some West African traders were believed to trade stones principally as a means of money laundering, enabling them to buy at higher prices and, if necessary, sustain loss. Telephone interview with mid-level southern-Africa based gemstone trader on 4/11/2015.

⁴⁶ Telephone interview with informal gemstone trader on 24/10/2015.

⁴⁷ Interview with representative of the *Association pour les négociants miniers du Sud-Kivu* on 26/09/2015. One official mid-stream African trader told the team that in places such as Bangkok some traders could engage in the practice of price racketeering whereby little-known/ad hoc traders would be forced to sell at lower prices because connected traders would refuse to buy until the seller was forced to offload stones at a low price because he was due to leave (Telephone interview with mid-level southern-Africa based gemstone trader on 4/11/2015.).

PART 2: Tourmaline mine site findings from North Kivu

Tourmaline mining in Masisi territory

Much of Masisi territory's known tourmaline production is to be found to the south in the vicinity of Ngungu, close to the border with Kalehe territory, South Kivu. Ngungu itself is located in SAKIMA's PE76 concession and operates as a centre for the administrative processing of minerals from the vicinity, including amongst others, cassiterite, coltan and amethyst, as well as tourmaline. Other gemstone producing sites in the vicinity of Ngungu include the Miko site (also producing small amounts of tourmaline), situated south-west of Remeka, as well as the recently discovered Kamomi site (principally producing amethyst as well as some tourmaline, with around 80 diggers), around two hours walk west of Ngungu.⁴⁸ However, Ngungu's principal tourmaline producing site at the time of the field mission was the Rwangara/Shakubangwa mine site. Rwangara/Shakubangwa is a hill-top site located at the southern-most point of the PE76 concession belonging to SAKIMA to the south-south-east of the town of Ngungu.

Challenges regarding designation of localities

It should be noted that the designation of sites and villages in the vicinity of Rwangara/Shakubangwa has been the source of some confusion. The Rwangara/Shakubangwa site appears to have developed very quickly over 2014 and is situated in between two sites of the same name. One site, to the south of Rwangara/Shakubangwa was visited by IPIS in 2013, at which time it appeared to be producing coltan. This site, also referred to as Rwangara, lies within the perimeter of SAKIMA's P2598 concession and was not visited during 2015 validation missions as it was believed to be the solely tourmaline producing Rwangara/Shakubangwa site. Another site, referred to as Shakubangwa, is a coltan/cassiterite site located to the north of Rwangara/Shakubangwa. The Shakubangwa site was visited by a validation team in July 2015 and green validated. Neither the Shakubangwa nor the Rwangara sites designated on the image above were visited by the research team during its field mission in 2015.

The village of Luzirantaka,⁴⁹ from which the team departed on foot to visit Rwangara/Shakubangwa, is home to a cassiterite and gold producing site variously called Luzirantaka Rivière, Luzirantaka and Nyamukubi.

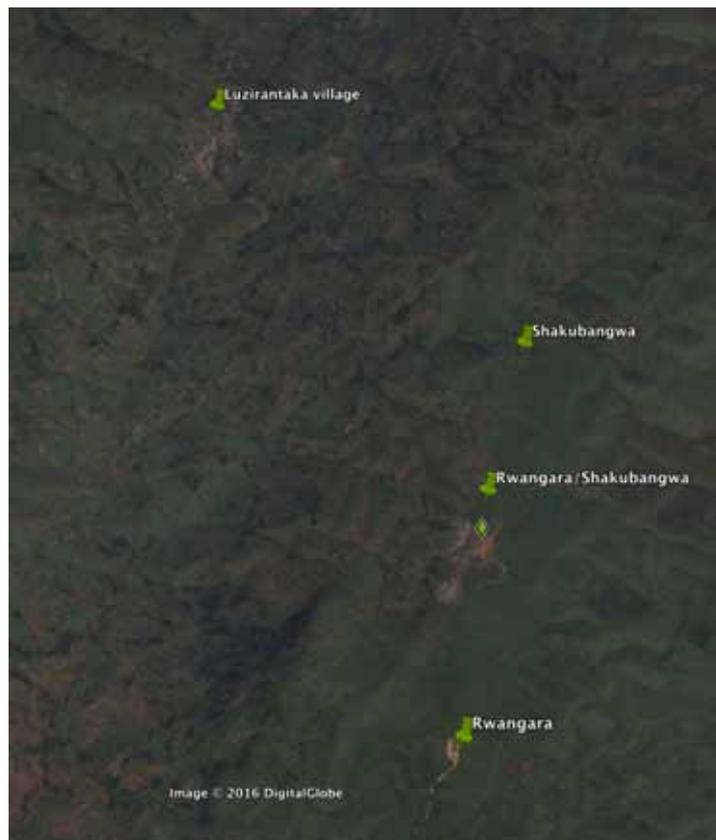


Figure 1: Satellite view of Luzirantaka and sites confused with Rwangara/Shakubangwa (Jan 2015)

⁴⁸ During an interview with stakeholders the team were told that Kamomi site was being watched with considerable anticipation and attracting increasing interest from the local mining community.

⁴⁹ Alternative spellings include Lusirandaka, Rusirantaka, Ruzirandaka and Ruzirantaka.

Accessibility of the Rwangara/Shakubangwa site

From Goma, the Rwangara/Shakubangwa mine can be accessed by two main routes: one via Rubaya and another via Murambi. The research team took the latter route, which entailed a 60 km drive into the Masisi highlands by 4x4 to Ngungu.⁵⁰



Figure 2: Map of roadblocks encountered en route to Rwangara/Shakubangwa in September 2015 ⁵¹ (IPIS, 2015)

In the course of its journey, the team encountered three roadblocks established by various different state services:

⁵⁰ In rainy season the road from Goma is only accessible until around 5 km from Ngungu, following which the only practicable mode of transport is walking or motorbike. Estelle Levin Ltd (ELL), site visit, February 2015.

⁵¹ Maps created by: International Peace Information Service (IPIS) | www.ipisresearch.be | April 2016. Sources: IPIS, Esri. The boundaries and names shown and the designations used on the maps do not imply official endorsement or acceptance by IPIS.

- **Mubambiro barrier** (23 km from Goma): This barrier seemed principally manned by national intelligence services, national police and FARDC. The team was not stopped or asked for money and was told that this barrier was principally concerned with gathering information.
- **Sake barrier** (25 km from Goma): All vehicles are required to stop, produce papers and pay at this barrier exiting Sake (3,600 CFS paid).
- **Karuba barrier** (36 km from Goma): The team was not stopped or asked for money at this barrier, though were informed that other persons could be stopped and asked for money in varying amounts.

The Rwangara/Shakubangwa site has no road access though can be accessed from various localities by foot. Its closest village is Luzirantaka. From Ngungu it is necessary to take a motorbike 6 kilometres to Luzirantaka village (20-30 minutes in dry season). This village (Annex II, Image A) marks the beginning of a one-hour walk that follows the Luzirantaka river (Annex II, Image B) to an elevation of 2,719 meters (a journey of around 5 km).⁵² Alternatively, the site can be accessed from the village of Murambi on the Ngungu-Minova axis, around 10 km from Ngungu. From here access is by motorbike for a further 7 km before an 8 km walk to the hilltop.⁵³ Two other paths to the site connect it to the localities of Numbi and Lumbishi, across the provincial border into Kalehe territory, South Kivu. These latter localities are reportedly around a two to three hour walk from Rwangara/Shakubangwa, respectively.⁵⁴

The Rwangara/Shakubangwa site itself has a support village half a kilometre from the site (Annex II, Image C). This provides a localised base for commercial and domestic activities. Luzirantaka river flows to below the site, where there is a trading point for the trade in stones and other goods, and bags of sand are brought down to be washed by washer women. Attempts at mineral exploration were visible on another hill to the east of Rwangara/Shakubangwa.

Site background

Whilst SAESSCAM in Goma have been aware of tourmaline production at Rwangara/Shakubangwa since mid-2014, a stakeholder meeting in Ngungu suggested that there has been activity at the site since at least 2012.⁵⁵ Satellite images of the locality in which the site is located confirmed that there was no mining in this location in August 2013. It is therefore likely that stakeholders were referring to mining taking place at the Rwangara site south of the tourmaline site visited by the team.

2014 saw an artisanal mining (ASM) rush at Rwangara/Shakubangwa (often referred to as “the Boom”). This is said to have peaked around September 2014, after which there



Figure 3: Satellite image of Rwangara/Shakubangwa site (Jan 2015)

⁵² This is the route taken by the project team in mid-September 2015. The walk up to the site via this route indicates attempts at artisanal alluvial gold and cassiterite exploration along the river, and the team were told that blue tourmaline had also been discovered at a locality close to the site but that the current landowner did not wish for this to be exploited.

⁵³ Route taken by ELL researchers in February 2015.

⁵⁴ For more on access to South Kivu localities see Part III: Tourmaline mine site findings from South Kivu.

⁵⁵ Stakeholder meeting on 17/09/2015, at SAKIMA Offices in Ngungu, including with representatives of SAKIMA, COOPERAMA, SAESSCAM, and DIVIMINES. Tourmaline mining has been taking place around Luzirantaka for some time, with IPIS teams recording the exploitation of both cassiterite and tourmaline at Luzirantaka on land then owned by Benoît Migabo in 2009. At that time just 27 miners were engaged in such exploitation and were subject to taxation at the hands of a local FARDC unit (ex-CNDP).

were a number of changes regarding oversight at the mine. During the Boom it is estimated that there were around 3,000 to 4,000 dependants on the site, including 400 to 700 artisanal workers,⁵⁶ and hundreds of individuals involved in the trading of stones locally. Miners had reportedly begun to take a further interest in exploiting tourmaline following a slowdown in the 3Ts market following the 2010 presidential mining ban.⁵⁷ The subsequent inflation of tourmaline prices in late 2013 to 2014 appears to have augmented that sudden shift to tourmaline mining during the Boom.

Mining during the Boom was reportedly chaotic with exploitation also being undertaken by prohibited persons, including children, as well as involvement from local FARDC. The team also heard reports of night exploitation taking place in 2014. This is said to have taken place with the involvement of the then incumbent Mining Police (POLIMINES), who were getting miners to work after dark so that they could access the most productive pits to collect the best quality stones.⁵⁸ This situation saw conflict between POLIMINES and pit captains at the site and earlier that year there had reportedly been incidents between miners and POLIMINES following the killing of a miner. The research team were told that at the end of 2014, these problems were resolved in talks with the local cooperative, TUUNGANE, and in December 2014, a new contingent of POLIMINES was deployed to Rwangara, which is said to have seen an end to the problem of night exploitation.⁵⁹

At the time of the 2014 Boom, the COOPERAMA cooperative had started to extend its activities over the site and had entered into agreement with SAKIMA, the site permit holder, for the payment of royalties in respect of minerals extracted from Rwangara/Shakubangwa. In November 2014, however, the TUUNGANE cooperative also officially began operating at Rwangara/Shakubangwa. Initially there had been tension between the two cooperatives but this was resolved through a partnership agreement providing for a revenue split of 80:20 to TUUNGANE and COOPERAMA



Figure 4 and 5: Rwangara/Shakubangwa on 13/10/2014 during a joint team visit deployed to investigate an incident at the site (IPIS, 2015)

⁵⁶ Interview with TUUNGANE Secretary General, on 16/09/2015, at TUUNGANE Offices in Goma.

⁵⁷ ELL interviews with traders in February 2015. Cassiterite, coltan and wolfram mining (aka 3Ts) saw a notable drop in production and pricing following a mining ban on the Kivus instituted by President Kabila in September 2010 after international concern about the continued involvement of armed groups in eastern Congo's mineral sector. This ban, which was lifted in March 2011, was immediately followed by downstream 'conflict free' sourcing requirements, which saw a contraction in the ASM workforce, with many miners moving to other minerals, including gold.

⁵⁸ Interview with representatives of the *l'Association de Négociants, Acheteurs et Vendeurs des Pierres de Couleurs* (ANAVPC) on 14/09/2015 at SAM Offices, Goma. This information was subsequently confirmed by a number of other stakeholders in Ngungu and on site.

⁵⁹ Stakeholder meeting on 17/09/2015, at SAKIMA Offices in Ngungu.

respectively, until the end of 2016. COOPERAMA subsequently withdrew from the site, though claims not to have received any of their 20% share to date.⁶⁰

Mine site profile

Artisanal worker numbers: Since the Boom, artisanal digger numbers have dropped from around 700 to around 100,⁶¹ with about 2,000 persons now reportedly dependent on the site. About 30% of these miners were said to be local to the area, with many others coming from localities such as Rubaya to work for short periods before returning home.⁶² At the time of the research team's mid-week visit in September, there appeared to be around 50-60 diggers in operation.⁶³ According to TUUNGANE's Secretary General, the last 4 to 6 weeks before the research team's visit had seen a further drop in digger numbers due to falling prices and difficulties in accessing the mineralised vein. This drop also appears to be reflected in the number of traders present at the site. A local trader representative present at the site claimed that in 2014 the number of people trading in tourmaline locally was in the hundreds, including petty, small and intermediate traders from local areas and further afield, like Goma and Numbi. At the time of the team's visit, the number of traders frequenting the site was said to have dropped by three-quarters (of whom about 50% were said to be ANAVPC members). Again, this was said to be because of falls in production volumes and quality, as well as the drop in prices occasioned by the lack of a market in Goma and internationally.⁶⁴ Likewise, the number of washerwomen employed at the site seems to have fallen from an estimated 300 at the time of the boom to around 20 at the time of the team's site visit.⁶⁵

Mode of exploitation: Mining at Rwangara/Shakubangwa predominantly takes the form of shaft mining, though TUUNGANE have started to move towards open pit mining techniques, which was in evidence on site (see Annex II, images D-G). SAKIMA stated that during the Boom there were around 34 shafts in operation,⁶⁶ though by September 2015 there were reported to be only 19 to 20 active shafts. Most however were in the preliminary exploration phase with only two actively producing.⁶⁷ Amethyst is also sometimes found.

Deposits of tourmaline mineralised sand have been found below an overburden of around 10-30 meters. Whilst shafts averaged a vertical length of around 20 meters to over 30 meters, a previous visit by SAM and a study conducted by SAKIMA indicated that some shafts then turned into galleries, which could extend as far as 100 meters.⁶⁸ TUUNGANE stated that whilst initially deposits were located closer to the surface, these deposits have since been depleted with the accessibility of the mineralised vein becoming more difficult. Miners on site indicated that it currently takes a team about two weeks to dig five meters.

Tools used for extraction at the site were rudimentary. The research team saw exploitation being conducted using hand picks, pick axes, shovels, rods, head torches and sacks. Pits were supported by timber frame supports, at least at the entrances (see figure 7 below). Recent efforts on the part of the cooperative to move away from tunnelling towards open pit mining were in evidence at the site, with a pump drawing water from the river at the base of the hill being used to erode the hillside (see Annex II, image I).

Research by ELL in February 2015 found that many miner respondents stated that they used the same washing and digging techniques as they used for coltan and that they seem to have little knowledge about gemstones, their exploitation or their commercialisation. This assertion was supported by the CEEC in North Kivu and TUUNGANE's Secretary General, who stated that stones were often broken, suggesting that this was the result of inappropriate mining techniques. The extent to which mining

⁶⁰ Stakeholder meeting on 17/09/2015, at SAKIMA Offices in Ngungu.

⁶¹ On-site interview with TUUNGANE site manager, on 18/09/2015, Rwangara/Shakubangwa.

⁶² Interview with TUUNGANE Secretary General, on 16/09/2015, at TUUNGANE Offices in Goma

⁶³ Observations and on-site interview with miners' representatives on 18/09/2015, Rwangara/Shakubangwa.

⁶⁴ On-site interview with representative of local traders on 18/09/2015, Rwangara/Shakubangwa.

⁶⁵ On-site interview with washerwomen representatives, on 18/09/2015, Rwangara/Shakubangwa.

⁶⁶ Stakeholder meeting on 17/09/2015, at SAKIMA Offices in Ngungu.

⁶⁷ Stakeholder meeting on 17/09/2015, at SAKIMA Offices in Ngungu. On-site interviews with miners' representatives and TUUNGANE site manager, on 18/09/2015, Rwangara/Shakubangwa.

⁶⁸ Stakeholder meeting on 17/09/2015, at SAKIMA Offices in Ngungu. This also appears to have been confirmed in interviews by ELL in February 2015.

techniques were actually at fault for the poor quality of stones was unclear (tourmaline scores around 7 to 7.5 on the Mohs scale for hardness and there was no evidence of the use of explosives on site). Regardless, TUUNGANE personnel have themselves undertaken some gemmological training and hired geologists to gain insight into best practices with regard to mining techniques. The Coop stated that they now need to pass this training on to miners, though have been suffering from a shortfall of capital.

Organisation on site: Mining operations take place under the supervision of TUUNGANE's site manager, who is responsible for the daily management of persons and activities on site. He works in collaboration with the mining police and mining authorities. However, whilst the mining police deploy eight policemen to the site, the team was told that SAESSCAM representatives rarely visit the site, nor check pits or working conditions.⁶⁹ DIVIMINES representatives are likewise said to attend the site solely to sell miner's cards (*cartes de creuseur*).⁷⁰

Diggers work on the basis of verbal agreement with pit managers. Around 60% of miners were said to be TUUNGANE members. The team were told that the rest were in the process of registration.⁷¹ Diggers work in teams of around 10 people, including one technician. Diggers are remunerated by a share of production, which is split 50/50 between the miners and the cooperative.⁷² Sacks of sand were said to weigh anything between 5 to 10 kg. The team were told that generally, upon the extraction of 10 sacks of mineralised sand, bags are split between the miner and the cooperative. Miner's representatives on site said that the team's share of the sacks would then be further split between the miners and the pit manager, with the pit manager usually receiving two bags.⁷³ Miners do a sample wash and then the bags are sold on to washerwomen for washing. Washerwomen stated that they self-financed this purchase and were also often involved in petty commerce. They stated that the tourmaline content is then sold on to buyers present at the trading point below the site. A number of these buyers were said to be independent and a number worked for the cooperative.

Of the 50% share of production that goes to the cooperative, the team were told that this is further split with half going to the cooperative and the other half being divided between technicians and the mining police at the site. The cooperative was said to finance the equipment on site. Miners are required to pay an annual cooperative membership fee of 30USD. This fee allegedly also covers the cost of a miner's card for each digger, which is paid by the cooperative.⁷⁴

Production and quality of stones

Production volumes: Production volumes for Rwangara/Shakubangwa are extremely difficult to ascertain for a number of reasons. As for all artisanal mining sites, production varies by season and numbers of diggers engaged (often dependent on market conditions). Tourmaline also has the added complication that the best quality stones can often be pocketed by diggers and therefore evade formal recorded channels. Moreover, the desire to protect illicit trading can lead some stakeholders to over or under report production. As a result, there are also notable difficulties with official statistics regarding production.

Some stakeholders referred to the DIVIMINES recorded tourmaline production value for North Kivu as being at 27 tonnes for the last half of 2014. However, a number of stakeholders also suggested that this appeared to represent a sizable overestimate. It was difficult to determine the extent to which this was the case. Certainly, there are a number of possible reasons for the high production figures represented in official statistics:

1. It is possible that official data is tainted by accounting errors. For example, all DIVIMINES data entries for Ngungu are recorded in a table in which the volume column is labelled in kilograms.⁷⁵ Whilst

⁶⁹ On-site interview with TUUNGANE site manager and miners, on 18/09/2015, Rwangara/Shakubangwa.

⁷⁰ Ibid.

⁷¹ Interview with TUUNGANE cooperative Secretary General, on 16/09/2015, at TUUNGANE Offices in Goma.

⁷² Ibid.

⁷³ Observations and on-site interview with miners' representatives on 18/09/2015, Rwangara/Shakubangwa.

⁷⁴ Interview with TUUNGANE cooperative Secretary General, on 16/09/2015, at TUUNGANE Offices in Goma

⁷⁵ *Fiches des statistiques des minerais déclarés en voie d'évacuation vers Goma, Point de Vente Ngungu, Mois août 2014 – septembre 2015, Division des Mines, Ngungu.*

some of the entries might indeed represent kilogrammes, it is possible that a certain number of them are actually intended to represent grams. Certainly, mixed accountancy methods and a default to kilograms when figures are intended to express grams were observable in DIVIMINES' statistics report for South Kivu.⁷⁶ It would appear however that if these accounting errors have affected DIVIMINES' data in Ngungu, then they have likewise affected SAKIMA's data at this locality, as the two are broadly correlative. This raises questions about the independence of the two data sets from one another (one is intended to reflect volumes taxed during authorisation for evacuation of minerals whilst the other is intended to reflect production). It also highlights the urgent need for capacity enhancement regarding production and transit data collection for local agents.

2. The team were told that tourmaline from both North and South Kivu is often declared in Ngungu and simply recorded as coming from "Shakubangwa". TUUNGANE's site manager stated that there appeared to be an arrangement in place between traders and authorities in Ngungu for the declaration of tourmaline in Ngungu, which has meant that stones originating from Numbi and Lumbishi can also be listed as coming from "Shakubangwa".⁷⁷ He pointed out that there had been little to no actual production at Rwangara/Shakubangwa at certain times in 2015 and so the monthly figures recorded by DIVIMINES for this period could not always have derived from the Rwangara/Shakubangwa site.

It is difficult to determine the extent to which this may affect official statistics. For all tourmaline entries in DIVIMINES' authorisation for evacuation of minerals records in Ngungu, "Shakubangwa" is recorded as the provenance of the stones. However, DIVIMINES South Kivu has likewise recorded declarations of tourmaline shipments destined for Goma at its local offices in Numbi.⁷⁸ As such, Ngungu does not appear to be registering all South Kivu production. SAKIMA's own monthly production data from Rwangara/Shakubangwa (also referred to as "Shakubangwa") seems broadly correlative with the volumes of tourmaline for which authorisation for transport was sought from DIVIMINES in Ngungu, though as outlined above, the independence of the two data sets from one another is unclear. SAKIMA's figures are also sizable: for example, for the period August 2014 to December 2014 SAKIMA records indicate over 31 metric tonnes of tourmaline *déchets* production, with over 24 metric tonnes of production recorded for the period January 2015 to June 2015.⁷⁹

3. The team also heard claims that some cassiterite evacuations are being declared by some traders as tourmaline *déchets* in order to benefit from lower taxes and evade the need for tagging. This is apparently because the value of tourmaline *déchets* is lower than the value of cassiterite. Stakeholders in Ngungu however claimed that processes for the declaration of minerals entail a physical inspection of the goods being declared. It was not possible to verify whether this actually happens in practice. Furthermore, DIVIMINES records on cassiterite declarations seen by the research team appear to be very low compared to tourmaline. The close correlation between SAKIMA and DIVIMINES tourmaline data makes comparison impossible. It may be however that comparative analysis of SAKIMA's data on 3T and tourmaline production may prove more insightful. Any such comparison would need to be mindful of the aforementioned confusion regarding the naming of sites in this vicinity.

Whilst it is difficult to get a definitive picture of production volumes from official data sources, some anecdotal information was gathered from those involved in production at Rwangara/Shakubangwa. Although production during the Boom was considerable, TUUNGANE's Secretary General told the team that since February 2015 production at the site dropped significantly due to a fall in worker numbers, as well as attempts by the cooperative to move away from shaft mining towards more open pit mining techniques. Work using water erosion techniques took place between February and April, occasioning a drop in exploitation due to pit closures. Production at the mines is said to have restarted from Mid-April 2015, though TUUNGANE reports that the last 6 weeks prior to the Team's visit had seen a further fall in production.

⁷⁶ The team has sight of the *tableau explicatif d'expédition* for the evacuation of minerals for the first trimester of 2015.

⁷⁷ On-site interview with TUUNGANE site manager on 18/09/2015, Rwangara/Shakubangwa.

⁷⁸ *Statistiques d'expédition jusque au 30 juin 2015, Division des Mines, Numbi.*

⁷⁹ *Situation de production artisanale de pierres de couleur (Août 2014 – Juin 2015), SAKIMA, 3/07/2015.*

Production quality: The research team was not accompanied by a gemmologist and therefore proper analysis of the quality of the tourmaline at the site was beyond the scope of the research. However, some photographic (Annex I) and general anecdotal data was collected. TUUNGANE's Secretary General showed the team some of the higher quality stones recovered from Rwangara/Shakubangwa, which were predominantly green or pink with one or two examples of bi-colours.⁸⁰ He stated that the quality of the tourmaline being recovered from Rwangara/Shakubangwa seemed to have decreased with no "tops" being found for around a year now. One trader spoken to also suggested that there had been a drop in the quality of stones recovered from the site and that a number of traders had lost money on purchases from Rwangara/Shakubangwa following the fall in tourmaline prices.⁸¹ Other traders nevertheless claimed that it was still possible to purchase good quality tourmaline at Rwangara/Shakubangwa. TUUNGANE's Secretary General stated that it was not uncommon for diggers to sell tops that are found illicitly and that the lack of a traceability mechanism to help prevent such theft was a notable problem.

Stakeholders

In addition to the miners, washers, small traders and traders who frequent the site, principal stakeholders for Rwangara/Shakubangwa include the following:

- **SAKIMA**

The Ngungu area has been located within the perimeter of SAKIMA's (formerly SOMINKI) PE76 concession since 1976. Title to exploit minerals on its PE76 concession, which encompasses Rwangara/Shakubangwa, as well as a number of other sites, has been granted for the period 4 April 1999 to 3 January 2017.⁸² SAKIMA told the team that it prioritises cassiterite for extraction on the PE76 concession, though it holds the title for all minerals exploited within the concession area, including tourmaline and amethyst.

SAKIMA has an office in Ngungu, which is staffed by 4 employees. Under a 2013 provincial *arrêté* SAKIMA has been designated as the focal point for the collection of royalties and registration fees on its concession, which are to be further distributed to the relevant state services in accordance with the relevant *clé de répartition*.⁸³

SAKIMA is entitled to collect a 10% royalty on the market value (as declared by the miner/trader) of the minerals produced on its PE76 concession. When asked how SAKIMA ensured that these declarations were truly reflective of the market value, SAKIMA's representative responded that it regularly sent people to the site to check on prevailing prices. Such visits could not be confirmed with stakeholders present on site. Whilst SAKIMA can retain 40% of its royalty it is nevertheless expected to repatriate the remaining sum to a variety of government agencies at the level of Ngungu and Goma in accordance with the agreed *clé de répartition* (see taxes below).⁸⁴

As Rwangara/Shakubangwa is located on SAKIMA's industrial concession, miners should be issued with a *fiche d'identification*. SAKIMA is responsible for miner registration on its concession for which miners are expected to pay \$25. This fee is again supposed to be collected by SAKIMA, who is entitled to retain 30% of the total before distributing the remainder between the relevant state services in accordance with a *clé de répartition* (see taxes below).⁸⁵ In practice however, this does not happen, with most miners paying for a *carte de creuseur* issued by DIVIMINES, if anything.

The team noted that SAKIMA representatives did not appear to be fully aware of arrangements at Rwangara/Shakubangwa mine site, particularly those concerning the payment of the mining police in sacks of minerals.

⁸⁰ Interview with TUUNGANE cooperative Secretary General, on 16/09/2015, at TUUNGANE Offices in Goma.

⁸¹ Telephone interview with informal gemstone trader on 24/10/2015.

⁸² CAMI/CE/134/2005.

⁸³ *Arête provincial No. 01/076/CAB/GP-NK/2013 du 23 juillet 2013 portant approbation des dispositions du protocole d'accord signé en date du 18/02/2010 entre le Service d'Assistance et d'Encadrement du Small Scale Mining, SAESSCAM en sigle, service public, et la Société Aurifère du Kivu et du Maniema, SAKIMA, en sigle.*

⁸⁴ Ibid, Annex A.

⁸⁵ Ibid.

At the time of the research team's visit, SAKIMA had entered into an agreement with the Goma-based comptoir, Valko, for the export of cassiterite and possibly tourmaline.

- **Division des Mines (DIVIMINES)**

At the level of Ngungu, DIVIMINES has offices that are located together with SAKIMA's so that those paying taxes and fees in Ngungu may do so in the same location. DIVIMINES is legally responsible for mine site inspections to ensure health and safety, and that environmental hazards, including water pollution, are averted at the site. In areas designated as Artisanal Exploitation Zones (ZEAs), DIVIMINES is also responsible for the issuance of miner's cards, charged at \$25 per card per year. This does not apply on industrial concessions such as PE76. Whilst it had no permanent presence at the site, stakeholders confirmed that DIVIMINES representatives occasionally visited the site, though the team were told that such visits were almost exclusively to sell *cartes de creuseurs* and that personnel never carry out site inspections.

DIVIMINES is also responsible for the issuance of mineral transport authorisations, in pursuance of which traders declare their minerals at the Ngungu bureau. As such, DIVIMINES keeps records of traders transporting minerals, and mineral origin, destination and weight. In issuing the authorisation, DIVIMINES levies a fixed tax of 5 cents per kilogramme.

Service d'Assistance et d'Encadrement du Small Scale Mining (SAESSCAM)

SAESSCAM stated that it has five agents on the ground in Ngungu, including one head of SAESSCAM operations.⁸⁶ SAESSCAM's Ngungu offices are also situated together with SAKIMA's.

SAESSCAM is legally responsible for the supervision and support of artisanal mining activities to channel the flow of production towards the official channels and minimise risks to miners during exploitation. In doing so, it is entitled to tax traders 1% of the market value of their tourmaline, with a part of this revenue reportedly being paid by SAESSCAM to the mining police.⁸⁷ The team was told that SAESSCAM's presence at the site was rare and that these services have not yet provided any support for the miners present at the site.⁸⁸

- **Mining Police (POLIMINES)**

POLIMINES appears to have had a presence at the Rwangara/Shakubangwa throughout 2014. The personnel and command of this contingent however reportedly changed in December 2014. The team were told that whilst there are 11 personnel responsible for the Rwangara/Shakubangwa site, there are 8 POLIMINES personnel with a permanent presence at the site: 6 policemen, one commander and one deputy.

POLIMINES report their role to be controlling security on the site, preventing fraud and controlling transit routes out of the site to Ngungu, Numbi, Minova and Murambi.⁸⁹ They report that this latter role can be challenging, though they have successfully intercepted illicit coltan traders from Numbi on the Murambi axes.

Whilst POLIMINES does not appear to levy any taxes directly from miners or traders, it nevertheless appears to receive a share of production from TUUNGANE (one sack of minerals per pit per day), as well as a share of revenue from SAESSCAM at the provincial level.⁹⁰

- **TUUNGANE**

The TUUNGANE cooperative encompasses those involved in upstream production (diggers and mining technicians) as well as intermediaries, such as traders. It was established in November 2014 by the Thomas Hakizinka family/ Shakubangwa Farm.⁹¹ The Hakizinka family are the owners of the land on which the site is located, growing potatoes and breeding cattle for the production of cheese. Family members hold the positions of president, executive secretary and site manager for the cooperative.

⁸⁶ Interview with SAESSCAM for North Kivu, on 14/09/2015, at SAESSCAM Provincial Offices in Goma.

⁸⁷ Stakeholder meeting on 17/09/2015, at SAKIMA Offices in Ngungu.

⁸⁸ On-site interview with TUUNGANE site manager, on 18/09/2015, Rwangara/Shakubangwa.

⁸⁹ POLIMINES are also contracted to provide security at Kamomi site, 3 km from Ngungu.

⁹⁰ See *clé de partition* below.

⁹¹ Also written "Tshakubangwa".

The attendance of Patrick Hakizinka at the OECD-UN Group of Experts Forum in Paris and recent efforts made by the cooperative to bring the site within OECD Guidance compliance evidences an awareness of the regulatory requirements for responsible sourcing on the part of the cooperative.

The TUUNGANE cooperative is an agro-mining cooperative, which focuses both on agricultural and mining activities, depending on community needs. The team was informed that due to the decreasing profitability of Rwangara/Shakubangwa mine the cooperative was currently focusing more on agriculture and project development. Indeed, whilst the cooperative devised a global policy for the structuring and functioning of the Rwangara/Shakubangwa mine site in early 2015, this does not yet appear to have been implemented as intended. Nevertheless, TUUNGANE signed memorandum of understanding with SAKIMA in 2015.

Taxes and Fees

The following table presents the taxes and fees that the team were told are levied by the relevant state authorities in the locality. It should be noted that the sums outlined were repeatedly mentioned by stakeholders when asked about taxes and fees. However, there may be occasions on which such disbursements are not charged or the actual sum charged differs from that stated in the table.

	Paid by	Paid at	Paid to POLIMINES	Paid to SAESSCAM	Paid to DIVIMINES	Paid to EAD/ Province
Miner registration card	Miner/ TUUNGANE*	Site			\$25/year	
Trader registration card	Trader	Site			\$200	
Ration	TUUNGANE	Site	1 sack/ 10 sacks mineralised sand per pit and per day			
SAESSCAM Service fee (FRSR)	Trader	Ngungu		1% of market value		
Mineral transport authorisation (ATM)	Trader	Ngungu			\$0.05/Kg	
Provincial levy	Trader	Ngungu				1% of market value
*In fact this fee is collected as part of TUUNGANE's membership fee and paid by TUUNGANE. The cooperative reported that it sometimes advances this payment for those who are in the process of becoming members.						
**It seems that this fee is not currently levied.						

Fees and royalties collected by actors other than state agents include the following:

	Paid by	Paid to SAKIMA	Paid to TUUNGANE
Fiche d'identification pour un Creuseur	Miner/ TUUNGANE	\$25/year ²	
Cooperative membership card	Miner		\$30/year
Commerce fee	Petty traders		1000CFs/week
Access rights	Site managers		1500CFs/week
Cooperative membership fee (Trader)	Trader		\$30/year
Royalty fee	Miner/ TUUNGANE	10% of market value	

Whilst SAKIMA can retain 40% of its royalty fee, this fee is subject to further disbursement to state services after collection in accordance with a *clé de répartition*, as follows:⁹²

⁹² SAKIMA reported that at the time of negotiating this *clé de répartition* under its negotiating position regarding these arrangements was weak due to prevailing insecurity around its concessions, which prevented SAKIMA from having a

- 27.5% to the provincial government;
- 10% to DIVIMINES;
- 15% to SAESSCAM;
- 5% to the local administrations (*secteur* and *collectivité*); and
- 2.5% to POLIMINES.

Moreover, were SAKIMA to issue miner registration it would be entitled to retain 30% of the attendant \$25 fee, with the remainder to be disbursed as follows:

- 35% to the provincial government;
- 15% to DIVIMINES;
- 20% to SAESSCAM; and
- 5% to POLIMINES.

OECD risk analysis

Direct or indirect support to armed groups

Between 2004-2012 the vicinity of Rwangara/Shakubangwa was occupied by armed groups, including CNDP and Nyatura. Since that time, many of these rebel groups have undergone demobilisation, though some Nyatura and Raia Mutomboki rebels, amongst others, have remained active in the highlands between Masisi and Kalehe and continue to operate there.

Despite this, the last few years have seen heightened levels of stabilisation in the area around Ngungu. The last major conflict incidents reported from the vicinity appear to have been in December 2014 when three militia groups active in southern Masisi (Mai-Mai Kifuafua, Raia Mutomboki and Nyatura) took advantage of the departure of the 806th FARDC regiment to seize possession of localities at Remeka and Luke.⁹³ Taking place predominantly to the west of Ngungu, aside from occasioning some population movement, these rebel activities do not appear to have touched Ngungu, Rwangara/Shakubangwa or their immediate surrounds or transport routes. Before this, fighting between the Raia Mutomboki and Nyatura in Ufamando in October 2013 took place in closer proximity, causing displacement from the collectivity in general towards Lumbishi, Numbi and Minova.⁹⁴

Enquiries with local stakeholders regarding the security situation around Ngungu and Rwangara/Shakubangwa confirmed that the security situation was good – a fact further confirmed by the UN group of experts.⁹⁵ Joint validation team missions in February 2014 designated a number of sites with green status, including the Luzirantaka site.⁹⁶ Further sites in the vicinity were validated green in July 2015, including the Shakubangwa coltan site to the north of Rwangara/Shakubangwa. Neither Rwangara/Shakubangwa nor Rwangara were visited during these missions.⁹⁷ Nevertheless, these validations have seen the iTSCi traceability system established at 3T sites around Rwangara/Shakubangwa,⁹⁸ as well as at the point of sale Ngungu. This allows for a certain degree of monitoring and due diligence in the area despite the current lack of a traceability system for gemstones. The team were told that security is further monitored through monthly local meetings in Ngungu and trimestrial meetings regarding the regional security situation. Attendees of these meetings include the landowner, the *Chef de Centre*,

presence on the ground.

⁹³ "Nord-Kivu: des miliciens occupent 8 localités à Masisi", Radio Okapi, 23/12/2014.

⁹⁴ "Nord-Kivu: plus de 1800 personnes ont fui les combats entre miliciens à Masisi", Radio Okapi, 27/10/2013; "Nord-Kivu : des miliciens Nyatura auraient tué 21 personnes à Masisi", Radio Okapi, 20/10/2013.

⁹⁵ Email correspondence with UN Group of Experts, November 2015.

⁹⁶ Designation as green validated means that at the time of validation the administrative, security and social situation at the site was satisfactory and under the control of the mining authorities. Visits confirm that there were no armed groups or Congolese state armed interference at the sites covered and that these sites were free from human rights abuse, child labour and the presence of pregnant women.

⁹⁷ Email correspondence with BGR, November 2015.

⁹⁸ Correspondence with PACT/iTSCi confirmed that iTSCi has five agents based in Ngungu with tagging fully operational at Nyamukubi, D6 Mufuzi. Katembe, Katahenga, Karuba-Lushaki and Bishasha sites.

POLIMINES, FARDC and SAKIMA.⁹⁹ Moreover, the presence of iTSCi at Rubaya means that monitoring of this locality and the transport route towards it (being half of the route to Rwangara/Shakubangwa) is closely monitored.

Nevertheless, the territory of Masisi is characterised by a post-conflict economy. Whilst demobilisation efforts have pushed many rebel fighters to disengage and reintegrate into their respective communities, the difficult economic situation and characteristically irregular income provided by mining activity renders making a living in civilian life challenging. High levels of youth unemployment and arms circulation have resulted in rising levels of banditry in the territory. This has seen traders of minerals, including gem traders, targeted by bandits on the road from the mining area around Rwangara/Shakubangwa to Goma. Traders were killed by unknown gunmen in Luzirantaka in February and November 2014, and the team were told that before February 2015 fatal ambushes had been taking place on the Murambi and Minova axes, though this zone is now secured by FARDC and the situation is said to be good.¹⁰⁰ Nevertheless, reports in July 2015 indicated that the route between Shakubangwa and Goma had seen four mineral traders killed by unknown persons between January and April 2015. Two of these traders came from Rwangara and one from Rubaya.¹⁰¹ This situation, which was confirmed in discussions with traders from the region, has led to calls for increased security on the route for the protection of both traders and other members of the mining community. Precautions taken by traders to avert targeting have included travelling in 4x4 and avoiding travel at night.¹⁰²

As regards security at the Rwangara/Shakubangwa site itself, the team had an opportunity to speak to both stakeholders in Ngungu and the head of POLIMINES present at the site. The team were told that the security situation at the site is managed through weekly security meetings between POLIMINES, FARDC and the site's landowner. It seemed that SAKIMA representatives were not regular attenders of these meetings. The head of POLIMINES stated that, whilst security south of Rwangara/Shakubangwa is problematic, the security situation on site is good, with disputes and incidents requiring POLIMINES involvement being mostly between miners and *paysans*.¹⁰³

In summary, it would appear that Rwangara/Shakubangwa is currently free from any direct armed group interference and has security arrangements in place that seek both to monitor this situation and maintain it over the long term. Nevertheless, security risks are posed by high levels of banditry in southern Masisi in general and supply routes would need to be monitored to ensure the integrity of the supply chain and the wellbeing of traders and miners. Moreover, in light of the frequent transit of traders across rebel-affected territory between the Rwangara/Shakubangwa site and other tourmaline sites at Numbi and Lumbishi, some system for traceability or chain of custody tracking would need to be established. Trade and traders would need to be carefully regulated and the situation south of the border closely monitored to guarantee that: (1) Rwangara/Shakubangwa stones do not derive any indirect benefits to armed groups, nor (2) become contaminated by stones from other areas.

Public security forces

In April and May 2014, the UN Group of Experts on the DRC investigated reports of FARDC soldiers being involved in mining at "Rwangara".¹⁰⁴ Officials, police and local administrators informed the Group that in February 2014, fifteen soldiers had come to the mine, established a camp 1 km away and sometimes went there to force people to work for them. The UN expert Group visited the site in April and did not see any soldiers at the mine, though did confirm the location of their camp.¹⁰⁵

Whilst the team noted the presence of FARDC in Ngungu, no soldiers were visible at the mine site throughout the day on which the team visited the site. An earlier visit by ELL in February 2015 likewise found this to be the case. When the issue of armed interference at the site was discussed with

⁹⁹ On-site interview with POLIMINES, on 18/09/2015, Rwangara/Shakubangwa.

¹⁰⁰ On-site interview with POLIMINES, on 18/09/2015, Rwangara/Shakubangwa.

¹⁰¹ C M Kakola, "Les négociants des minerais cibles de l'insécurité", 16 July 2015, available from SaveActMine website.

¹⁰² Interview with ANAVPC representative in Goma on 15/09/2015.

¹⁰³ On-site interview with POLIMINES, on 18/09/2015, Rwangara/Shakubangwa.

¹⁰⁴ Paragraph 88, *Lettre datée du 19 juin 2014, adressée au Président du Conseil de sécurité par le Président du Comité du Conseil de sécurité créé par la résolution 1533 (2004) concernant la République démocratique du Congo, S/2014/428*, available at: http://www.reseau-rafal.org/sites/reseau-rafal.org/files/document/externes/RDC%20S2014428_0.pdf.

¹⁰⁵ *Ibid*, annex 34.

stakeholders at Ngungu and the mine site, reference was made to FARDC and POLIMINES interference at the site in 2014, including the issue of night exploitation. Stakeholders also referred to confrontations between POLIMINES and local FARDC in 2014. FARDC plays no role in the provision of security on site, which is strictly in the hands of POLIMINES. Nevertheless, the team was told that a FARDC general does still occasionally visit the site in civilian clothing and that, when there is production, is sometimes given a small sum of money. This situation would need to be addressed to ensure and maintain OECD guidance compliance at the site.

Moreover, whilst the issue of night exploitation on behalf of POLIMINES agents has now been resolved, the distribution of sacks of tourmaline to POLIMINES by TUUNGANE by way of payment for services raises questions about OECD compliance regarding the involvement of armed state actors in the tourmaline trade. In discussions with the team the commissionaire for POLIMINES indicated that a payment arrangement at another SAKIMA mine, whereby POLIMINES were paid a monthly stipend would be welcomed by these services. This may present a possible alternative to current arrangements.

In sum, whilst there was no testimony of any significant FARDC interference with mining or trading of tourmaline from Rwangara/Shakubangwa, visits of FARDC personnel to the mine site would need to be closely monitored and any payment arrangement terminated. Moreover, the payment of POLIMINES in sacks of minerals would need to be addressed to ensure full OECD compliance at the site.

Pregnant women, child labour and other human rights issues

During the teams visit to Rwangara/Shakubangwa no pregnant women were seen on site and no women at all were engaged in the digging activities. The team was told that women are forbidden from entering the site generally because of their tendency to be followed by children. After being told that legal compliance did not prohibit women working in mining but only prevented pregnant women mining, the team were told that efforts were underway to create a moat over which it would be impossible for children to jump to prevent them from entering the site. The team saw this in evidence at the bottom of the site near the trading point where women were predominantly located.

Upon discussing the issue of child labour at the site the team were told by numerous stakeholders that children were absolutely prohibited from entering the site. Certainly, the team did not see any evidence of young children at or around the site. It is clear that those responsible are aware of the prohibition of child labour in mining and appear to be trying to prevent it. However, one miner, who appeared to be engaged in digging work, did strongly present as being under age in manner and physique, though this could not be confirmed. The clarification of screening processes to ensure the absence of underage diggers and prevent the presence of young children on site would be beneficial.

Having resolved the issue of forced labour/night exploitation, the main human rights risks at the site revolve predominantly



Figure 6 and 7: Mineshafts in October 2014 (above) and in September 2015 (below) (IPIS, 2015)

around health and safety. The digging of tunnels from both sides of the hill creates a high risk of landslides and tunnel collapses. The depth of pits and length of galleries present numerous hazards. Combined with poor mining techniques, these conditions can occasion pit or slope collapse, bench failures and poor ventilation. Oxygen pumps were said to be available at the site, though it was not possible to confirm how many. ELL's visit in February 2015 indicated that at that time, the system was only able to serve one tunnel at a time, though miners seemed to suggest that there were several such pumps available.

A number of fatal accidents were reported by stakeholders to have taken place at the mine in 2014, including pit collapses and landslides. However, the increased awareness of TUUNGANE of health and safety at the site and efforts to improve this with, for example, the installation of wooden supports at shaft entrances and a move towards open pit mining is reported to have seen a notable improvement in safety conditions. The cooperative, mining authority stakeholders and miners noted the improvements in this regard, claiming that no fatalities have taken place this year.

Bribery and fraudulent misrepresentation of origin of minerals, and money laundering, payment of taxes, fees and royalties

Issues raised about the representation of the origin of tourmaline as being from Rwangara/Shakubangwa, and suggestions that cassiterite is sometimes declared as tourmaline *déchets* to circumvent the regulatory and tax regimes, highlight the need for some form of chain of custody tracking and/or traceability to prevent fraud. Moreover, further clarification on the proper payments regarding miner registration at the site may be warranted given that DIVIMINES' mandate to issue miner's cards is legally restricted to artisanal mining zones, whereas the exploitation taking place at Rwangara/Shakubangwa is within the licenced perimeter of an industrial exploitation site requiring the issuance of *fiches d'identification*. As such, the levying of fees for a *cart de creuseur* may represent an illegal fee being levied by DIVIMINES.

PART 3: Tourmaline mine site findings from South Kivu

Tourmaline mining in Kalehe territory

Kalehe territory in South Kivu appears to be the principal venue for tourmaline mining in the province with mines located in the north of the territory accessing the same mineralised vein as that of Rwangara. Indeed, the highlands of Numbi-Buzi are rich in a wide variety of mineral resources, including cassiterite, coltan, microlite, gold, quartz and gemstones, including tourmaline. The town of Numbi, located 25 km to the southwest of Kalungu, acts as a principal trading centre for tourmaline, being within ready walking distance of most tourmaline producing sites in the vicinity. These sites are located in SAKIMA's PE2598 concession and include Fungamwaka I, Fungamwaka II, Kishanga and Chez Madame. Another key tourmaline producing site, called Lumbishi, is located to the west of Numbi.¹⁰⁶

Accessibility of the Numbi and Lumbishi sites



Figure 1: Numbi town and sites, and Lumbishi

Numbi and its environs can be accessed from both Goma and Bukavu. The research team took the opportunity to travel along both access routes over the course of the field mission.

From Goma, Numbi sites can be accessed by foot from Rwangara/Shakubangwa and its surrounds. This route is reportedly taken by a number of tourmaline traders transiting from Numbi sites and seeking to access Goma via Rwangara/Shakubangwa and Ngungu. However, principal access by road from Goma is undertaken by 4x4 via the Sake-Minova axis down to Kalungu (approx. 55 km from Goma). Taking this transit route, the team noted the following road blocks and collection points:

- Mubambiro barrier (23 km from Goma): see North Kivu (Part II).
- Sake barrier (25 km from Goma): see North Kivu (Part II).
- Kirotshe barrier: The team was not stopped at this barrier.
- Bweremana barrier: This checkpoint was constituted of two barriers within 10 m of each other, each on either side of the border between North and South Kivu. The team was stopped at the

¹⁰⁶ It should be noted that other sites in this region, including localities along the river between Numbi and Lumbishi have also been reported as tourmaline producing but were not visited during this research.

first barrier and requested to pay a small charge for road maintenance by the FONER Service¹⁰⁷ for which a receipt was issued. No charge was levied at the second barrier.

- Kalungu barrier: The team was not stopped at this barrier though it has been the subject of concern regarding the levying of taxes, including correspondence (dated 9 September 2015) from the mineral traders association in Numbi to the provincial mining authorities. Actors at the barrier include SAESSCAM, DIVIMINES and the Congolese Anti-fraud Unit.

Between Kalungu and Bukavu (approx. 143 km), the team also noted the following roadblocks:

- Kazingo barrier: The team was not stopped at this barrier.
- Miti barrier: The team was stopped and charged 4,500 CDF at this barrier and issued a receipt.
- Katana barrier: There appeared to be a military presence at this barrier though the team was not stopped.
- Ihusi/Kalehe barrier: The team was not stopped at this barrier.



Figure 2: Transit routes between Numbi/Lumbishi sites and Goma and Bukavu (IPIS, 2015)

Travel to Numbi after Kalungu entails a journey of 25 km further into the Numbi-Buzi highlands by motorbike. Whilst the road is accessible by 4x4, the poor condition of the road makes motorbike transportation faster (approximately 1 hour). Once in Numbi, all sites are within a 30 to 50 minute walk of the town, with the exception of Lumbishi. Lumbishi is a further 30 minutes by motorbike or 1.5 hour walk along the valley of the Lowa-Numbi/“Nyabarongo” river (Annex III, Section 4, Images A and J).

Site backgrounds

Their logistical isolation, a lack of alternative livelihoods beyond subsistence agriculture, and until recently, high levels of insecurity, have rendered artisanal mining particularly attractive for local populations in the highlands of Numbi-Buzi. The further development and formalisation of the mining sector could have the potential to augment stability in this fragile post-conflict region.



Figure 3: Fungamwaka I (Jan 2015)

¹⁰⁷ Fonds National d'Entretien Routier (National Roads Maintenance Fund).

Tourmaline has reportedly been exploited around Numbi since around 2000, with the most south-westerly site of Chez Madame being the oldest source of tourmaline.¹⁰⁸ As exploitation at Chez Madame has expanded north and begun to encroach on other pockets of ad hoc mining, stakeholders are now referring to the most recent area of tourmaline production as Kishanga.¹⁰⁹ This locality, which can sometimes also still be referred to as Chez Madame, lies upstream of the alluvial plain immediately northeast of the older Chez Madame site, and is the principal focus for tourmaline mining around Numbi. Mining at the Fungamwaka sites north of Kishanga is said to have started in 2006, with Fungamwaka II being the principal tourmaline producing site. Mining at Lumbishi has reportedly been taking place since around 1992, though interest in tourmaline is more recent.

A number of the sites visited by the team produced other minerals in addition to tourmaline.¹¹⁰ Despite this, at the time of the team's visit tourmaline appeared to be the principal mineral of focus for miners and traders around Numbi. DIVIMINES in Numbi estimated that four out of five miners in the area are engaged in tourmaline exploitation and 43 of a total of 50 traders registered by DIVIMINES in Numbi were tourmaline traders. The geographic isolation of Numbi and Lumbishi no doubt renders light weight high value minerals, such as gold and high quality tourmaline, a more viable option for those seeking to market their production.

Attempts to formalise the mining sector around Numbi and Lumbishi have been ongoing for some time. Relative improvements in security meant that by the time of the team's visit, three cooperatives had established a presence: Coopérative des Exploitants Artisanaux Miniers dans les Hauts Plateaux de Numbi-Buzi (COPAMIHANUBU); Coopérative Minière Artisanale de Biriki (COMIAB) and the newly forming Coopérative Minière de Ziralo. Of these, COPAMIHANUBU is the largest and most established,¹¹¹ with all sites visited by the team



Figure 4: Fungamwaka II (Jan 2015)



Figure 5: Kishanga (Jan 2015)



Figure 6: Chez Madame (Jan 2015)

¹⁰⁸ Interview with COPAMIHANUBU President and Vice-President, in Numbi on 20/09/2015.

¹⁰⁹ It should be noted that site names appear to be evolving around Numbi as exploitation progresses. Thus for example, an area formerly referred to simply as Fungamwaka now often appears to be treated as three sites: Fungamwaka I, Fungamwaka II and Central.

¹¹⁰ Fungamwaka I and II also produce cassiterite, which constituted the majority of production on Fungamwaka I. Kishanga appeared to be exclusively tourmaline producing, and wolframite and gold were also said to be extracted at Chez Madame. At Lumbishi, diggers were engaged in the extraction of gold, cassiterite and coltan.

¹¹¹ COMIAB operates only in Biriki and Coopérative Minière de Ziralo is not yet fully established.

apparently located on property owned by COPAMIHANUBU members.

Mine site profiles

Artisanal worker numbers: DIVIMINES estimated that there were around 2,500 artisanal miners operating at sites in Lower Numbi, Lumbishi and Ziralo, of which 80% were said to be involved in tourmaline extraction at the time of the team's visit.¹¹² On the day of the research team's field visits to Numbi sites, there were around 4 digging teams operating at Fungamwaka II, with an estimate of around 60-70 persons present on site. The team were told that there were generally



Figure 7: Lumbishi site and town (Jan 2015)

around 9 artisanal miners to a team,¹¹³ though there appeared to be a larger number of persons present on site. Exploitation at Kishanga seemed to attract a much larger number of miners with an estimated 20 teams, said to be composed of around 5 miners per team.¹¹⁴ Again, however, there appeared to be a larger number of people present on the site than these figures suggest. Estimates on the day indicated the presence of around 150-180 miners. These localities stood in stark contrast to the old Chez Madame site where only around 20 miners could be observed as engaging in extraction on the day of the visit. Miners operating there reported that many diggers had migrated to Kishanga, which was more productive.¹¹⁵ At Lumbishi, the research team spoke to a group of pit captains representing four teams. Here, there appeared to be between 8 and 10 miners to a team.¹¹⁶ The team saw an estimated 100-120 artisanal workers engaged in digging and washing along the length of the river on the afternoon of the visit. A previous IPIS visit to Lumbishi in mid-July 2015 estimated that around 500 miners operated along the length of the site in this area. Whilst a local cooperative representative claimed that there could be as many as 1,000 workers operating at Lumbishi, these numbers could not be confirmed.

It should be noted that worker numbers at sites can fluctuate radically as a result of new finds and local market forces. Sites visited by the research team in the context of this study had previously been visited



Figure 8: Fungamwaka II (IPIS, September 2015)

¹¹² Interview with DIVIMINES in Numbi on 23/09/2015.

¹¹³ Field interview with diggers at Fungamwaka II site on 21/09/2015.

¹¹⁴ Field interview with pit chief at Kishanga site on 21/09/2015.

¹¹⁵ Field interview with pit chief at Chez Madame site on 21/09/2015. The miners remaining appeared to be more interested in extraction to secure a subsistence income.

¹¹⁶ Field interview with pit captains at Lumbishi site on 21/09/2015.



Figure 9: Kishanga (IPIS, September 2015)

by IPIS researchers in July 2015. At that time, these teams reported a notable inflation of artisanal worker numbers specifically at tourmaline producing sites around Numbi. These workers were said to number well over 2,000 at that time. This was allegedly due to a notable quantity of high-grade tourmaline being recovered, especially at Kishanga. Nevertheless, by late September 2015, these numbers appeared to have dropped and miners and traders complained that the market for tourmaline had become depressed.

Numerous traders were also present around the mine sites in Numbi, though it was difficult to distinguish them from other actors. Nevertheless, about eight confirmed *négociants* could be seen sitting on the hillside between the Kishanga and Fungamwaka sites and numerous buyers and sellers could be seen in the evening around an alley of gemstone trading counters in Numbi.

COPAMIHANUBU estimates that around 10% of artisanal miners at sites around Numbi are women.¹¹⁷ Indeed, women were observed by the team to be engaged in (lighter) recycling of waste materials from upstream artisanal sluices (“binambas”), as well as washing work at Fungamwaka II, Chez Madame, Kishanga and Lumbishi. A number of these women appeared to be working alone, sifting through waste material to salvage stones for a subsistence income. A number of women were also reportedly engaged in buying and selling, though the team were told that these traders would often operate from home making it difficult to monitor their activities.¹¹⁸ Some concession holders were also said to be women. Of 23 COPAMIHANUBU founding members, six were women.

Mode of exploitation: Tourmaline extraction at sites around Numbi predominantly takes the form of open pit mining. This mining is carried out on an ad hoc basis along the alluvial plane of a tributary flowing south into the Lowa-Numbi/“Nyabarongo” river that runs between Numbi and Lumbishi. Fungamwaka II was located the furthest upstream and was therefore slightly more elevated than Kishanga and Chez Madame. Photographic documentation of exploitation methods at all four localities is provided in Annex III to this report.

DIVIMINES indicated that there are around 34 tourmaline pits in operation around Numbi: 20 at Kishanga and Chez Madame, 4 at Fungamwaka II, and 10 at Fungamwaka I (though the latter were predominantly cassiterite producing). Pit depth at sites appeared to average around 4 to 6 m. COPAMIHANUBU reported that some pits in the region could reach a depth of 15 m, forcing extraction to move elsewhere for safety reasons.¹¹⁹ Open pits at Fungamwaka II seemed, on observation, to be the deepest, closely followed by Kishanga. Chez Madame appeared *prima facie* to have shallower pits, though this perception may be due to the fact that many pits appeared to have filled with water at the time of the team’s visit.

Diggers around Numbi sites were observed removing overburden with basic tools such as spades, hammers and iron bars to reach tourmaline mineralised sand below. Motor pumps and buckets were used to drain water from pits. At Fungamwaka II, in particular, miners appeared to be using a rudimentary

¹¹⁷ Interview with COPAMIHANUBU President and Vice-President, in Numbi on 20/09/2015.

¹¹⁸ Interview with COPAMIHANUBU President and Vice-President, in Numbi on 20/09/2015.

¹¹⁹ *Ibid.*



Figure 10: Chez Madame (IPIS, September 2015)

sluice system to clear tailings by running water over freshly dug areas. At the bottom of this sluice, some women could be seen going through the tailings for tourmaline *déchets*. *All pits at the sites visited around Numbi appeared to have irrigation problems. Teams were largely dependent on a limited number of water pumps to drain pits*¹²⁰ and where these were not in operation miners could be seen bailing water with makeshift buckets. It seemed that once mineralised sand was reached, instead of undertaking the hard labour of digging down vertically to expose more mineralised sand, some teams would try to dig horizontally in an attempt to follow the mineralised vein.¹²¹ This was observable on site.¹²²

In Lumbishi, operations took place along the larger Lowa-Numbi/“Nyabarongo” river. Here, there appeared to be around 25 pits in operation with an average depth of between 4 to 8 m.¹²³ It would reportedly take diggers an average of a week to clear overburden with spades and iron bars.¹²⁴ Having drained the resultant pit of water, miners would then pile mineralised sand up for cleaning. The research team was told that water drainage was often undertaken using a water pump, which reportedly costs around \$200/month to hire – a cost reportedly borne by the miners themselves.¹²⁵ Pits were said to take between one to two weeks to deplete before extension was necessary. Some tourmaline also appeared to be uncovered in the course of alluvial gold mining in the river. Here, miners were passing stones through small sluice boxes using spades in the same manner as they might alluvial gold or cassiterite.

Organisation on site: Most of the miners spoken to in field interviews around Numbi stated that the pit owner or landowner for whom they were working was a member of COPAMIHANUBU. Whilst the cooperative provides some framework for formalisation, organisation at the sites, including financing and beneficial pit ownership, appeared to be complicated and untransparent. Moreover, it was not clear how many miners were themselves COPAMIHANUBU members. The team were told by some that many miners were not members because they could not/did not want to pay the registration fee (\$10/year).¹²⁶ Enquiries about miner registration and cooperative membership in Lumbishi suggested that on average less than half had a *carte de creuseur* and only between 20-40% of miners in a team were cooperative members.¹²⁷ Indeed, for sites around Numbi only around 250 miners had registered for a miner’s card from DIVIMINES.¹²⁸

¹²⁰ The team were told by one pit captain that there were 4 pumps servicing all sites though this could not be confirmed.

Motor pumps, being highly influential on progress on a pit, appeared to be instrumentalised by some actors to the extent that they appeared to be subject to two forms of taxation and high rental fees.

¹²¹ Interview with COPAMIHANUBU Executive Secretary in Numbi on 21/09/2015.

¹²² Observations by research team’s geological expert during site visits on 21/09/2015.

¹²³ Interview with COPAMIHANUBU representative in Lumbishi on 22/09/2015.

¹²⁴ Field interview with pit captains at Lumbishi site on 22/09/2015.

¹²⁵ Ibid.

¹²⁶ Discussions with COPAMIHANUBU representative during mine site field visits on 21/09/2015.

¹²⁷ Field interview with pit captains at Lumbishi site on 22/09/2015.

¹²⁸ Interview with DIVIMINES in Numbi on 23/09/2015.



Figure 11: Lumbishi (IPIS, September 2015)

Overall, the team were told that responsibility for site management rests with the relevant landowner, who could exploit the land himself or sell exploitation rights over the property to someone else or to digging teams for a determinate period.¹²⁹ At Fungamwaka II, for example one land owner would come to an arrangement with teams for the exploitation of an area for a period of 3 to 6 months.¹³⁰ The sale or lease of exploitation rights appeared to be a frequent occurrence. As such, it seemed that landowners themselves did not often play a role in the daily management of activities on site.

Generally, miners appeared to work on the basis of verbal agreements with pit captains and owners. At sites around Numbi, production was generally split 50/50 between the pit owner and digging teams, with pit owners having the option to buy back all minerals from miners on their pits.¹³¹ However, the details of arrangements between digging teams and pit owners differed between sites/pits. Some teams reported that they could only sell their production share to the pit owner, though other pit owners were said to permit miners to sell elsewhere.¹³² Others said that the pit owner would sell all production on their behalf and give them 50% of the sale value.¹³³ Some also reported selling at a market overlooking the sites, next to which a group of local traders had positioned themselves.¹³⁴ Most miners seemed to know of the categorisation system being used for tourmaline, at least to the extent that they could make reference to the different categories.

Many miners around Numbi said that they paid for their own tools (a spade was said to cost around 3,000 CDF).¹³⁵ At Chez Madame the miners' provision of their own equipment formed part of their arrangement with the pit owner. However, miner incomes could also vary due to the need to borrow money from pit owners for food when little or no production was found. One team stated that they would borrow money from the pit owner, which would be paid back in production.

Indeed, at sites around Numbi, meeting food and equipment costs for miners appeared to form part of prefinancing arrangements with local traders, a number of whom were positioned next to the local market overlooking the Fungamwaka I and Kishanga sites during the day. These traders were observed by the research team giving money to miners to buy food from the market. They confirmed that land/pit owners often had no money for food or equipment and so would turn to them to finance these costs in exchange for exclusive purchase rights for all production extracted at the pit. The duration of such arrangements was reportedly dependent on the trustworthiness of the pit owner to abide by the arrangement. Once production was extracted, pit owners would offer a purchase price and negotiations would start from there.

¹²⁹ Interview with COPAMIHANUBU President and Vice-President, in Numbi on 20/09/2015.

¹³⁰ Field interview with diggers at Fungamwaka II site on 21/09/2015.

¹³¹ Interview with COPAMIHANUBU President and Vice-President, in Numbi on 20/09/2015.

¹³² Field interview with diggers at Fungamwaka II site on 21/09/2015. These miners complained that they did not feel they received good enough prices from their pit owner.

¹³³ Field interview with pit chief at Kishanga site on 21/09/2015.

¹³⁴ Field interview with diggers at Fungamwaka II site on 21/09/2015.

¹³⁵ Field interview with diggers at Fungamwaka II and Chez Madame sites on 21/09/2015.

It seemed that such arrangements could be in place both with pit owners and/or individual digging teams/pit captains. Many of the same traders observable next to the mine sites during the day were later seen at trading counters in Numbi in the evening. The team were told that the washing of mineralised sand usually took place at the end of the working day (often overseen by someone trusted by the pit owner) and that miners/pit captains would then leave the mine site and sell to traders in the early evening (around 7 pm). This was confirmed by observations in Numbi in the evenings when miners could be seen passing through the gemstone trading counters on their way back from the sites, in some instances leaving stones.



Figure 12: Local traders next to site (IPIS, September 2015)

The team were informed that lack of capital meant that the cooperative was not usually in a position to purchase stones.¹³⁶ Cooperative representatives claimed that this inhibited COPAMIHANUBU's ability to function by maintaining its funding shortfall. The team were told that some traders were cooperative members but that the overwhelming majority of traders were not. Membership of the cooperative reportedly requires traders to pay 10% of their profit to COPAMIHANUBU in order to trade freely, or else the coop would tell the trader member to whom they should sell. Likewise, those seeking to buy stones reportedly had to pay 10% of their purchase budget to the coop.¹³⁷ One stakeholder expressed the view that tourmaline trading in Numbi was competitive and most traders wanted to remain outside of the cooperative to be free of its control and to escape the administrative burdens of formalisation such as taxes and fees.

Digging operations at Lumbishi appeared to take place on a different basis. Here, digging teams appeared to be operating with greater autonomy, possibly due to the remoteness of the site.¹³⁸ The team were told that digging teams were generally composed of between 8 and 10 people, including a pit captain, a treasurer, a chief of work and sometimes other designated roles.¹³⁹ Once tourmaline had been cleaned, a report was sent to the pit owner to account for what had been found. Production was said to be split with the pit owner 50/50 in the case of two teams consulted and 40/60 (in favour of the miners) for the other two teams. Two team members (usually the captain and the treasurer) are then reportedly delegated to sell the stones in Lumbishi. Stones are reportedly sold in Lumbishi to traders from Goma, Bukavu and Numbi on the basis of weight. Those miner representatives spoken to at Lumbishi stated that they did not know the categorisation system being used by traders but simply accepted the price offered to them by traders on the basis of unit weights, much like cassiterite.

COPAMIHANUBU has a permanent representative based in Lumbishi town and some miners claimed to be COPAMIHANUBU registered. However, the team were told that a rival cooperative, COMIAB, headed by Faustin Dunia Bakarani, was also seeking to establish itself in Lumbishi. The team were unable to obtain further information on this cooperative beyond the fact that it appeared to be operative predominantly at the Biriki mine site, which is not tourmaline producing.

¹³⁶ Interview with COPAMIHANUBU representative in Numbi on 21/09/2015.

¹³⁷ Ibid.

¹³⁸ This account also accords with that of a tourmaline trader who frequents Lumbishi to purchase stones.

¹³⁹ Field interview with pit captains at Lumbishi site on 22/09/2015.

Production and quality of stones

Production volumes: COPAMIHANUBU confirmed that it collected regular (at least monthly) production statistics for each site it covered. The research team requested sight of the cooperative's tourmaline production records, as well as evacuation declaration records from DIVIMINES in Numbi. Whilst the team was handed a hand written note from COPAMIHANUBU's president stating global figures for tourmaline *déchets* (1,500 kg) and *triage* (500 kg) production for January to September 2015, official records were never produced within the timeframe of the research team's visit to Numbi. As such, the team was unable to ascertain the reliability of information or origin of the tourmaline referred to in the note. SAKIMA had no production data at the time of the team's visit.

DIVIMINES records for authorisation for transport at Numbi indicated the transport of 457.2 kg of tourmaline (92.2 kg *triage* and 365 kg of *déchets*) from Numbi in the first semester of 2015.¹⁴⁰ However, it is difficult to ascertain the reliability of these records due to the fact that there appears to be no recorded transport of higher quality stones. Moreover, the use of mixed accountancy methods in earlier records indicates a possible need for further capacity enhancement regarding record keeping.

Production quality: Stones seen by the team as coming from Numbi were predominantly green and pink. Miners at Lumbishi reported recovering stones in a range of colours, including green, red, pink, brown, sky blue and clear. They also reported recovering some topaz and emerald *déchets*.¹⁴¹ Using the Congolese system for tourmaline grading, miners in Numbi estimated that the quality of production at sites around the town averaged around 80% *triage and déchets*, with 10% top quality and 10% M quality.¹⁴² International gem dealers visiting the area around Numbi in 2015 reported the production of a certain proportion of facetable rough from sites in this area, though also stated that inclusions or fractures rendered many stones cabochon grade.¹⁴³

Stakeholders

Aside from the more diffuse range of actors referred to above, key stakeholders at and around sites in Numbi and Lumbishi included:

- **SAKIMA**

SAKIMA is currently the legal titleholder to all minerals in the PE2598 concession. However, due to the unstable security situation around Numbi until recently, it has not had a presence in the locality since the cessation of SOMINKI activities in the Mumba-Bishasha mining sector in 1985. As such, most actors in the area, including state services, have treated the concession as abandoned, leading to the development of a system of "pit owners" that appears to make no reference to SAKIMA. The mining company is in the process of reaching out to stakeholders in the area, in a bid to establish credible partnerships for the further development of sites in the locality. At the time of the team's visit a SAKIMA representative was present in Numbi in order to undertake a survey of the current situation. SAKIMA also expressed an intent to send geologists to the area to survey mineral deposits.¹⁴⁴ Representatives stated that the situation with regard to tourmaline had not yet been discerned though the exporter AMUR has shown interest in facilitating exports of cassiterite from Numbi sites.

SAKIMA's North Kivu representative acknowledged that the establishment of a SAKIMA presence in the area may take some time and would need to be undertaken carefully.

- **Coopérative des Exploitants Artisanaux Miniers dans les Hauts Plateaux de Numbi-Buzi (COPAMIHANUBU)**

¹⁴⁰ Including 26.6 kg destined for Bukavu. DIVIMINES Numbi records for first semester of 2015 (until 30 June 2015).

¹⁴¹ Field interview with pit captains at Lumbishi site on 22/09/2015.

¹⁴² Field interview with pit captains at Kishanga on 21/09/2015. Such estimates could not be confirmed however and should be treated with caution.

¹⁴³ B. M. Lours FGA, "Tourmaline Mining in the Democratic Republic of Congo", *The Journal of Gemmology*, 34(6), 2015, 475, p.476.

¹⁴⁴ Interview with Head of SAKIMA for South Kivu in Bukavu on 26/09/2015.

The COPAMIHANUBU cooperative was first created in 2010 by a collection of stakeholders and can potentially provide a notable formalisation structure for tourmaline mining at the Numbi/Lumbishi sites. However, the extent to which COPAMIHANUBU adequately represents its full membership was not entirely clear. Landowners formed around 80% of its founding membership, and key positions on its *comité de gestion* (tasked with handling operations, including policy decisions, membership, finance, record keeping and management)¹⁴⁵ can only be held by landowners.¹⁴⁶ Moreover, some miners encountered during the team's site visits complained that the cooperative did not operate with enough transparency. Cooperative representatives for their part said that it was difficult to manage all stakeholder expectations, especially in light of the cooperative's lack of resources. In principle, pit owner members are required to pay 50\$ per year to COPAMIHANUBU, as well as making contributions from their 50% production share.¹⁴⁷ Nevertheless, despite original plans for credit and savings schemes,¹⁴⁸ COPAMIHANUBU reported a serious shortfall of capital.¹⁴⁹ This was said to have inhibited the effective functioning of the cooperative and prevented the disbursement of funds to members.

COPAMIHANUBU's current membership was said to be composed principally of miners and pit owners, with only a few traders.¹⁵⁰ There appeared to be conflicting accounts of cooperative membership numbers, with the team being informed by COPAMIHANUBU representatives that its membership stood at around 3,000 miners, though other estimates of cooperative membership around the time of the team's visit placed it at about 600 to 1,000.¹⁵¹ The team did not see a register of members and so was unable to confirm these estimates.

COPAMIHANUBU was registered in 2013¹⁵² and signed an MoU for the exploitation and commercialisation of minerals on the PE2598 concession with SAKIMA in 2015.¹⁵³ This provides for the exploitation of tourmaline as well as the sharing of production statistics with SAKIMA. No royalties were reportedly paid to SAKIMA by the cooperative. COPAMIHANUBU reported that its data sharing arrangement with SAKIMA was intended to assist the company to better understand production at sites within its concession following its long absence from the locality, in order to assist it with levying royalties in future.

COPAMIHANUBU operations are overseen by a general assembly of members, which meets in ordinary session two times a year, as well as extraordinarily, when required.¹⁵⁴ The *comité de gestion* is elected by the General Assembly and is composed of a president (Jean Ngeregeze), vice-president (Moise Muhizi) and general secretary. The team were told that daily activities fall within the management of an executive secretary who works with this committee and is assisted by a number of departments (exploitation, anti-fraud, investigations, development, security, finance and external relations). Each department is generally composed of a head and vice-head with additional personnel added as required.¹⁵⁵

• SAESSCAM

SAESSCAM has a sub-office in Numbi, employing 9 members of staff to cover sites around Numbi, as well as Lumbishi. Officials in Numbi acknowledged SAESSCAM's role in the supervision and support of artisanal mining in the area, though stated that they found it difficult to fulfil this role due to a failure to respect regulations.

Whilst SAESSCAM officials in Numbi assisted the research team to clarify some of the taxes SAESSCAM levied locally, after only a few questions on this issue, officials terminated the interview citing the team's failure to follow the authority's hierarchy in seeking to consult them. It seems that this Bureau has tense

¹⁴⁵ Articles 34-38, Statuts de la COPAMIHANUBU, faits à Numbi 19/Oct/2010.

¹⁴⁶ Interview with COPAMIHANUBU President and Vice-President, in Numbi on 20/09/2015.

¹⁴⁷ Interview with COPAMIHANUBU representative in Numbi on 20/09/2015.

¹⁴⁸ Statuts de la COPAMIHANUBU, faits à Numbi 19/10/2010.

¹⁴⁹ Interview with COPAMIHANUBU President and Vice-President, in Numbi on 20/09/2015.

¹⁵⁰ Interview with COPAMIHANUBU President and Vice-President, in Numbi on 20/09/2015.

¹⁵¹ Action for Protection of Human Rights and Communal Development (APDHUJ), *Rapport d'analyse de Contexte Socio-Economique, Environnemental, Sécuritaire et Politique du Territoire de Kalehe et ses environs (Walikale)*, December 2015, p.19.

¹⁵² Registration number 0531/CAB.Min/MINES/01/2013.

¹⁵³ Interview with COPAMIHANUBU President and Vice-President, in Numbi on 20/09/2015.

¹⁵⁴ Article 27, Statuts de la COPAMIHANUBU, faits à Numbi 19/Oct/2010.

¹⁵⁵ Interview with COPAMIHANUBU President and Vice-President, in Numbi on 20/09/2015.

relations with numerous stakeholders in the locality, who allege that it continues to engage in illegal taxation.

- **Division des Mines (DIVIMINES)**

DIVIMINES has a bureau in Numbi staffed by 14 agents, composed of 4 office-based staff and 10 field officers tasked with sensitisation and inspections. Sensitisation of traders and miners to pay registration fees for trader and miners cards is reportedly done primarily through the coop, with the use of police assistance in instances of refusal to pay.

- **Mining Police (POLIMINES)**

POLIMINES has only 3 mining police deployed to Numbi for the provision of security at all sites. At the time of the team's visit the commander for POLIMINES was away and it was hoped that he might return with around a dozen police reinforcements for his contingent. Stakeholders however expressed doubts about whether such reinforcements would be forthcoming, stating that such requests had been made for some time with no real provision made.¹⁵⁶ POLIMINES in Numbi seemed significantly under resourced and marginalised in operations in the locality. Some interviewees expressed the view that this contingent was not sufficiently respected by local stakeholders who viewed it as weak.

POLIMINES has an office in Numbi, close to the main exit to local mining sites. Personnel stated that they were present on site between 10 am and 4 pm and that their principal task was clearing the site of children and pregnant women and responding to disturbances of the peace, such as disputes or thefts.¹⁵⁷ POLIMINES also stated that they could impose penalties for infractions such as thefts, citing one example of tourmaline theft that had occurred during the teams visit to Numbi but that had since been resolved. POLIMINES said that they would visit Lumbishi once or twice a month for the duration of a week, though generally lacked personnel to cover the site adequately.

POLIMINES reported sometimes going on site with SAESSCAM or COPAMIHANUBU to check documentation. They have also assisted in the collection of taxes levied at the site in the past.

Taxes and Fees

The team were informed that the following taxes and fees were being collected by state services in Numbi:

Tax/Fee	Paid by	Paid at	Paid to SAESSCAM	Paid to DIVIMINES
Miner's card	Miner and pit owner	Site		\$21- 22/year ^a
Négociant's card	Trader	Site		\$260/year ^b
Fiche d'identification for miner	Miner	Site	\$10/year ^c	
Fiche d'identification for motor pump	Miner	Site	\$50/month ^d	
Fiche d'identification for motor pump	Owner	Site		\$50/year
Fiche d'identification for négociant	Trader	Numbi	\$15/year ^e	
Fiche d'identification for pit	Pit owner	Numbi	\$20/month	
SAESSCAM Service fee (FRSR)	Trader	Numbi	\$100-150/shipment	
Mineral transport authorisation (ATM)	Trader	Numbi		\$100/shipment
Fee ^f	Trader	Kalungu	\$10/shipment	
Fee ^g	Trader	Kalungu		\$30/shipment

^a Whilst at least five different stakeholders told the team that this was the cost of a miner's card, DIVIMINES informed the team that the cost was in fact \$10/year plus \$1 for environment.

^b Whilst this was the sum reportedly paid by traders, DIVIMINES informed the team that the fee for a négociant's card for tourmaline traders was in fact \$200 plus a \$50 administration fee.

^c Miners at Kishanga however reported paying \$20/year.

^d Two stakeholders however appeared to suggest that this was payable monthly.

^e This figure was cited by SAESSCAM. However, some traders claimed to pay \$20/year.

^f Correspondence dated and 9 September 2015 to the Governor of South Kivu and numerous mining authorities from Action pour la Défense des Droits des Négociants de Numbi (ADDNN asbl).

^g Ibid.

¹⁵⁶ Interview with COPAMIHANUBU President and Vice-President, in Numbi on 20/09/2015.

¹⁵⁷ Interview with POLIMINES in Numbi on 23/09/2015.

Additional taxes and fees referred to during the team's visit included:

- A *Fiche de contrôle technique* levied by SAESSCAM at the provincial level. A previous SAM visit to Numbi indicated that this was payable at \$30 every six months, though the team was told by SAESSCAM Numbi that this tax was last collected in 2012.
- A pit declaration of \$150/year reportedly payable to DIVIMINES by pit owners.
- An annual contribution of \$51/year, which is split between SAESSCAM, DIVIMINES and the COPAMIHANUBU, and reportedly paid by miners at Kishanga.
- A \$20 per shipment levy charged by the Anti-Fraud Service in Kalungu upon members of the mining sector passing through Kalungu.¹⁵⁸

OECD risk analysis

Direct or indirect support to armed groups

Prior to demobilisation efforts in 2012, the highlands of Numbi-Buzi were under the occupation of negative forces, in particular rebels belonging to both Nyatura and Raia Mutomboki militias. Whilst many of these rebels have since demobilised, FARDC continues its operations against residual bands that have been reluctant to lay down their weapons. The groups are often referred to in the context of banditry, though they appear to be seeking to remobilise in more remote parts of the highlands between Masisi and Kalehe and remain active towards Kamatale.

At the time of the team's visit, stakeholders generally reported that the security situation around Numbi was stable, including along the road from Kalungu.¹⁵⁹ The team were told that the deployment of FARDC troops to the area had significantly helped to stabilise the region. As a result, as at December 2015, six sites around the town had been green validated, including Chez Madame¹⁶⁰ and Fungamwaka (visited by validation teams in April 2015). This has seen the launch of efforts to implement traceability schemes at sites around Numbi. During its field visit, the research team met two iTSCi representatives in Numbi town and the scheme is said to be covering some sites in the vicinity, though not Lumbishi, which has not been validated.¹⁶¹ The Better Sourcing Programme has also taken an interest in the Numbi locality for the implementation of its GeoTraceability platform, though there appears to be some tension with iTSCi over its entry onto the market at this locality. The establishment of traceability and due diligence schemes around Numbi, whilst predominantly focused on minerals other than tourmaline, indicates that this locality is in the process of developing its capacity for monitoring both mineral flows and security.

Due to its remote location, the situation around Lumbishi is more fragile. Whilst the deployment of a permanent FARDC detachment to the town has reportedly led to rising levels of stability, high levels of arms circulation in the area have meant that some incidents of banditry still arise. Stakeholders claimed that these were infrequent.

Whilst many former Nyatura rebels formerly active in this region have demobilised to pursue civilian occupations, such as mining and trading, some elements had been reluctant to do so. Between June and August 2015 insecurity occasioned by the activities of armed men allied with ex-Nyatura leader Colonel Bahati, was said to have resulted in a drop in artisanal miners at Lumbishi. More miners had reportedly started to return shortly before the team's visit. Bahati had been killed just two weeks before the team's arrival.¹⁶² He and his group were said to have been former Nyatura militia members who had refused to demobilise, and were engaging in looting and banditry, including two past visits to Fungamwaka. Bahati was reportedly killed in a dispute with one of his men north west of Numbi towards Lumbishi. The team were told that others in his group had fled north and been killed by FARDC.

¹⁵⁸ Ibid.

¹⁵⁹ Views expressed by COPAMIHANUBU and D-AGRI, amongst others.

¹⁶⁰ Validation coordinates indicate that the area validated may overlap with the southernmost part of what is now often also referred to as Kishanga.

¹⁶¹ Communications with PACT, 11 December 2015.

¹⁶² See MONUSCO, Conférence de Presse des Nations Unies, 19/08/2015, p.9.

After the team's visit, the end of October 2015 saw clashes between the FARDC and armed men under the leadership of another former Nyatura militia leader called Kalume at Lumbishi. After attacking the FARDC military camp in Lumbishi on the night of 28 October, the group is said to have occupied the town for only a day before being ousted by the Congolese army, headed by Major Mbangilwa Patience. Reports from Radio Okapi in late November 2015 indicated that meetings had been held between disparate bands of Raia Mutomboki and ex-Nyatura to discuss the formation of a more consolidated force to counter the FARDC in the territory of Kalehe (and Shabunda).¹⁶³

In spite of the security incidents cited above, it seems that the presence of FARDC around both Lumbishi and Numbi helps to ensure that there is no overt direct involvement of armed groups in mining at these sites. Whilst the isolated situation of Lumbishi means that security incidents around this locality have arisen, armed groups do not appear to have been in a position to secure control over mining there. Moreover, Numbi is not affected by security incidents in the same manner as Lumbishi. However, ensuring that mining and trading from these localities does not indirectly benefit armed groups will remain a challenge that needs to be addressed. Ex-militia members can be well camouflaged amongst the civilian population to the extent that they share the same linguistic (Kinyarwanda) and familial ties. This can create a risk of their presence among or complicity with members of the mining community. Indeed, one source indicated that some in the area suspected Bahati of receiving complicity from local miners or traders because the group only targeted those travelling with over \$500 and sometimes took minerals, which they were presumably able to sell. This situation would therefore need to be monitored closely.

FARDC or other state actors

FARDC maintains a presence in both Numbi and Lumbishi for security reasons. No uniformed soldiers were seen in Numbi town or in the mine sites around Numbi at the time of the team's visit. The contingent's camp was clearly visible on a hill a short distance west of Numbi next to the track heading down to the sites visited.

There was a keen awareness in Numbi that soldiers are not allowed onto the mining site and the 10th military region has established a special force by the name of D-AGRI, which is tasked with demilitarising mine sites in the area. The team were told of one incident in which an armed soldier had entered a mine site, been chased by POLIMINES, and then ordered to leave the site by D-AGRI. Some soldiers were visible in the town of Lumbishi, though those miners spoken to reported that there was no interference in mining from these troops.

Despite this, the team were told that some FARDC elements retained interests in the mining trade in Numbi, with at least one FARDC officer owning a pit at Chez Madame. In addition to this, a high ranking member of D-AGRI personnel was said to own a pit at Kishanga. Whilst never expressly admitted by third parties, some acknowledged that pit ownership by FARDC or D-AGRI personnel was possible, though such ownership would not be registered in the name of that individual. Despite this, transparency around pit ownership around Numbi is essential in ensuring OECD/ICGLR compliance.

Whilst there were no reports of direct public security force taxation at mine sites, public security forces have nevertheless been implicated in helping mining authorities to levy illegal taxes on site. In the past, state services collecting taxes, particularly SAESSCAM, would bring state security forces (D-AGRI) with them to threaten miners and seize or destroy equipment when levies were not paid. D-AGRI had formerly been paid between \$50 and \$100 by SAESSCAM each time it rendered such assistance. D-AGRI and SAESSCAM had reportedly engaged in regular collaboration to recover debts. D-AGRI was also occasionally engaged by DIVIMINES for the collection of taxes, for which it was paid \$50 per intervention. The head of D-AGRI informed the team that he no longer receives any money from mining authorities for such interventions. He stated that the SAESSCAM hierarchy had prohibited its Numbi bureau from engaging the force in this manner. Nevertheless, some stakeholders alleged that such cooperation continued to take place. This situation would need to be monitored.

POLIMINES also reported having assisted SAESSCAM to collect taxes. Here, where taxes had not been paid by miners the relevant captain would be approached and asked to ensure that his workers comply.

¹⁶³ Des groupes armés tentent de se coaliser au Sud-Kivu, selon la société civile, Radio Okapi, 24 November 2015.

If failure to pay persisted, the individuals concerned would be requested to leave the site until they had paid. If they continued working they would be subject to arrest. In cases where taxes for motor pumps remained unpaid, the motor pump in question would be detained until payment was made. It seemed that POLIMINES had come to an arrangement whereby they would receive 10% of any tax levied by SAESSCAM in the course of POLIMINES assisting them with such collections.

OECD guidelines state the role of public security forces in and around mine sites should be directed solely at the maintenance of the rule of law (including the maintenance of human rights), providing security to miners, equipment and facilities, and protecting mines and supply routes from illegitimate interference.¹⁶⁴ Whilst the collection of tax revenues can clearly present a challenge in areas where it is difficult to regulate the activities of persons in and around mine sites, the involvement of public security forces can become problematic where excessive force is used, or where illegal taxes are levied and payment arrangements are contingent on sums collected.

It should be noted that it seems that a number of stakeholders, including COPAMIHANUBU and iTSCi, have been attempting to secure progress on this issue. Nevertheless, it seems that further mitigation steps may need to be taken in a clear and transparent manner to resolve the matter. Where possible, this should be done in accordance with the appropriate guidance, including the Voluntary Principles on Security and Human Rights and the UN Code of Conduct for Law Enforcement Officials.

Human Rights

The presence of COPAMIHANUBU personnel during much of the team's site visits sometimes made questioning on human rights issues impossible. Observations and some private interviews nevertheless enabled the team to make a number of findings.

OECD responsible sourcing guidance is entirely conducive to the engagement of women in artisanal mining. Nevertheless, responsible sourcing requires that pregnant women not be engaged in artisanal exploitation. Among those women engaged in mining at the sites visited, only one woman at Lumbishi was observably pregnant. None in Numbi were observably pregnant, though their manner of dress and the fact that many appeared to be resting as the team approached, made it difficult to tell. The presence of a European and one or more cooperative officials made the team somewhat conspicuous. This is likely to have prompted any persons engaged in prohibited activities on site to leave. Nevertheless, children were also seen around the mine sites visited. One child observably under 15 could be seen running away from a pit at the Chez Madame site as the team approached. A previous visit by SAM in late 2014 highlighted that the presence of women and children at around 40% of the sites visited, including Chez Madame, Fungamwaka and Lumbishi, warranted further enquiry about their role in mining.¹⁶⁵ That visit likewise raised concerns regarding advanced warning of those engaged in prohibited activities about the presence of monitoring/validation teams. POLIMINES reported that a key part of their function was chasing pregnant woman and children away from sites. This highlights an urgent need to reinforce OECD/ICGLR enforcement capacity in Numbi if sites are to remain green validated. The area visited by the team in Numbi stretched over several kilometres and is too large to ensure effective enforcement of the prohibition on child labour and pregnant women by only two or three police officers. This situation is even more acute in Lumbishi. Moreover, it is essential to ensure that where enforcement of rules on prohibited persons is strengthened, that this is done to the greater benefit of those children it is intended to benefit and without discriminating against non-pregnant women seeking to engage in the artisanal sector to earn a living.

Aside from harassment in the context of illegal taxation (see above), other human rights issues at sites around Numbi and Lumbishi, as observed by the research team, centred largely around health and safety concerns.

All pits at the sites visited around Numbi appeared to have irrigation problems, with numerous pits being flooded. This could pose a risk of drowning, particularly for children. Teams were largely dependent on a limited number of water pumps to drain pits. Moreover, once mineralised sand was reached, the team were told that instead of undertaking the hard labour of digging down vertically to expose

¹⁶⁴ OECD Due Diligence Guidelines for Responsible Supply Chains, Annex II, p.22.

¹⁶⁵ Children under the age of 15 were also observed by other researchers visiting Kishanga in July 2015.

more mineralised sand, teams often start to dig horizontally, creating a risk of collapses. The team were informed of at least 6 previous fatalities at Fungamwaka as a result of one such accident in 2014, as well as a landslide fatality at Lumbishi in 2015. The team were also informed of a fatal accident at the non-tourmaline Biriki site next to Numbi in 2015. There did not appear to be any sanitary facilities or health workers present at any of the sites visited around Numbi, and persons injured on site could be logistically difficult to reach by vehicle transport. Nevertheless, the NGO MSF has a base in Numbi and had reportedly been turned to for the treatment of injured persons during incidents on site in the past.

It should be noted that previous on-site accidents also appear to have had implications for maintenance of the peace at sites, sparking violent conflict between affected parties and pit owners, where not properly handled. One example was cited of an accident in 2015 in which a miner was killed and buried without the knowledge of his family. This was said to have given rise to dispute resulting in a number of wounded.

Bribery and fraudulent misrepresentation of origin of minerals, and money laundering, payment of taxes, fees and royalties

At the time of the team's visit, stakeholders in the mining community appear to have been subject to a wide variety of taxes around Numbi and Lumbishi. It was alleged that not all of these taxes are legally due to the services collecting them, or, where they are due, are larger than is legally required. Some stakeholders also stated that they did not always receive receipts for payments, raising questions over whether such dues were genuinely being transferred to state coffers.

The issue of harassment of traders for the collection of illegal taxation by SAESSCAM in Numbi was raised with provincial mining authorities by the local trader's association in June 2014, citing instances of intimidation and arrests. An enquiry mission was reportedly despatched to address this issue and some action appears to have been taken. Nevertheless, during the visit a number of stakeholders said that illegal taxes continued to be levied. SAESSCAM activities appeared to be a source of frustration in this regard. Some stakeholders also suggested that DIVIMINES was also engaged in illegal levies. The team was told that when security services came on site, pit captains would simply tell miners to give them whatever they asked for to avoid trouble. Some miners said that threats and intimidation could sometimes be involved in securing payments from artisanal workers, despite apparent attempts by the cooperative to stop such behaviour. Some stakeholders suggested that D-AGRI could still occasionally be involved in these activities.

In addition to this, the team were informed that three Numbi SAESSCAM officials were also the owners of at least three pits around Numbi, including tourmaline pits. Reference was made to Kishanga and Chez Madame. This information was corroborated by third parties. Moreover, at least four DIVIMINES personnel were also said to be pit owners, though it was not clear at which site. This information also appeared to be confirmed by third parties. The research team requested a list of pit owners from DIVIMINES but this could not be provided in time for the team's departure. Mining authority personnel are legally prohibited from owning pits under national legislation.

Enquiries with mining authorities in Bukavu confirmed that there was an awareness of illegal taxation around Numbi at the provincial level and that at the time of the visit there was an organisation compiling a list of legal taxes in a bid to put an end to this. Such a list would prove highly beneficial, as would closer regulation and monitoring of collaborations between security agents and mining authorities in the collection of taxes on site and along the supply route. Moreover, heightened transparency about pit ownership around Numbi is essential to ensuring that prohibited persons are not involved in the trade locally.

Summary findings, challenges and suggestions for the future

Summary findings

It is clear that tourmaline production and trade has started to garner increasing interest from the artisanal mining community and Congolese traders since 2012. In the Kivus, this has seen the development of a market for tourmaline in both Numbi and Goma, and has also occasioned efforts to formalise the trade somewhat through the establishment of a specialist gemstone trade association and an increase in applications for export licences for coloured stones. These developments, which continue to gain momentum, suggest some potential for responsible sourcing, though a number of structural challenges would need to be addressed (see below).

Upstream, tourmaline site-specific findings can be summarised as follows:

Rwangara/Shakubangwa: The Rwangara/Shakubangwa site exhibits a number of favourable conditions for the establishment of responsible sourcing. These include the improved local security situation regarding armed group presence, awareness concerning OECD due diligence standards on the part of the local cooperative, local stakeholder engagement in terminating acute predatory activities by mining police, and the existence of complementary monitoring around the region and along notable segments of the supply chain, including by iTSCi. Nevertheless, a number of factors still need to be considered. For example, whilst there currently appears to be no threat of direct or indirect interference from non-state armed groups at the Rwangara/Shakubangwa site, the transit of traders from Numbi to the site across rebel-affected territory may require monitoring. Any ad hoc payments to FARDC personnel and the payment of POLIMINES in sacs of mineralised sand would also need to be addressed to ensure OECD compliance. Certain fees levied by DIVIMINES require further enquiry to ensure that miners are not being subjected to illegitimate fees. Moreover, child protection and miner vetting practices would need to be reviewed to ensure that they are appropriate to addressing the presence of children on site and robust enough to prevent the involvement of persons under the age of 18 in hazardous work, such as tunnelling. In the absence of a traceability or chain of custody tracking system, challenges concerning accurate data collection on production and origin merit further address given potential risks concerning fraudulent misrepresentation of origin and non-payment of taxes. This risk is exacerbated by confusion surrounding the naming of sites in the vicinity.

Numbi sites: Once again, sites around Numbi benefitted from a number of positive factors capable of facilitating responsible sourcing. These again included improved security in the locality over recent years, including attempts to ensure the demilitarisation of mining areas through the establishment of a special force to counter rogue FARDC element interference in mining. Whilst sporadic banditry in the vicinity by armed actors refusing to demobilise was reported in the summer of 2015, stakeholders reported no such interference at the time of the research team's visit in September 2015. Moreover, processes were being developed to monitor the situation. Indeed, at the time of the team's visit, the Numbi area further benefited from the attention of at least two monitoring schemes (iTSCi and BSP). Desire amongst local stakeholders to access the international market means that many stakeholders, including the main cooperative, also have some awareness of OECD compliance requirements. Securing such compliance at these sites however may require certain issues to be addressed or further investigated. Indeed, there have in the past been indicators of possible indirect interference by non-state armed actors in the mining sector around Numbi through either miners or traders. This situation therefore requires close monitoring. Moreover, at the time of the team's visit there were indications of possible support to public security forces in the form of pit ownership – an issue that would need to be conclusively addressed. Pit ownership by other prohibited persons, namely DIVIMINES and SAESSCAM officials, was also attested to. Furthermore, D-AGRI and other public security actors have been implicated in the levying of illegal taxes by local mining authorities. Despite a previous effort to address this, it was not clear whether that situation had been conclusively resolved. In addition, the local POLIMINES service was too under-

resourced to effectively enforce OECD compliance concerning the presence of pregnant women and children at sites, given the size of the force and the geographical spread of sites. Finally, in the absence of a traceability or chain of custody tracking system for gemstones, challenges concerning accurate data collection highlight a potential risk of fraudulent misrepresentation of origin.

Lumbishi: At the time of the research team's visit, the security situation in Lumbishi was stable but fragile. The remoteness of the site means that it would require further assessment and monitoring on all fronts to determine its ability to comply with key requirements under the OECD responsible sourcing framework.

Overcoming challenges to responsible sourcing

Challenges in addressing the above findings as regards responsible sourcing could include:

1. Issues of title

The territorial isolation of sites visited during this research in terms of road and electricity infrastructure renders industrial exploitation at these localities challenging at best. This, combined with other factors, such as regional security, has seen artisanal mining present as a suitable extraction model in these locations. Nevertheless, all the sites visited in the course of this research are located within the perimeter of concessions for which SAKIMA holds exploitation permits, rendering it the legal titleholder to the minerals located there. Moreover, SAKIMA's absence from Numbi for many years has seen the development of local ownership structures around sites in this locality. Any responsible sourcing endeavour would therefore need to manage any risk of possible conflict over titles between stakeholders.

2. Indirect support to non-state armed groups, public security forces and other prohibited personnel

Indirect support to armed actors and other prohibited persons through, for example, pre-financing, pit ownership or the involvement of rebels or rebel-affiliated individuals in mining or trading, is a challenge for OECD compliance. Whilst there is a clear understanding of the need to ensure that armed actors are not present on mine sites, including at the sites visited, this increased awareness can sometimes simply push pre-existing interveners further underground so that they are less perceptible. Where militiamen share the same language, social, cultural and familial connections as everyone else, detecting their presence among the local mining community can be difficult. In combatting these problems, transparency, especially concerning pre-financing, pit ownership and vetting procedures, is essential. Moreover, robust monitoring committees composed of both local and more removed regional actors might assist in detecting indirect benefits to prohibited persons.

3. The illegitimate levying of taxes and fees

The issue of taxes and fees is key to efforts to formalise the tourmaline trade to the extent that, whether legally levied or not, they can disincentivise official trading. One key challenge in this regard is the difficulty experienced by stakeholders in attempting to determine what taxes they should legally be paying at both mine site and supply route level. A public and widely available list of taxes and conditions under which they are chargeable and by whom for each mineral at mine site and transit route level could prove valuable to supporting formalisation efforts and preventing rogue officials from levying illegitimate fees and taxes. Nevertheless, it should be noted that illegal taxes can sometimes be seen as having greater legitimacy than legal levies. Indeed, legal taxes too can serve to stifle incentives to trade officially. Reference to tax regimes for coloured gemstones in other producer countries could prove insightful in discerning how to manage such issues.

4. Lack of a traceability or chain of custody tracking system for tourmaline

A traceability system for tourmaline was raised by a number of stakeholders as necessary to enabling the capture of the highest quality stones within the formal supply chain. It is also significant to preventing fraud and misrepresentation of origin, as well as other prohibited activities. When asked about this issue,

one CEEC official suggested that the CEEC-developed ITOA system could prove helpful for coloured gemstones. This system – developed to address traceability challenges in the gold sector – involves the use of special bags, securitised by sequential serial numbers, throughout the supply chain to point of export. The use of such a system may indeed warrant further exploration. In the meantime, an appropriate chain of custody tracking system would go some way to facilitating traceability and enabling supply chain due diligence.

5. Resource constraints and capacity deficits among key stakeholders

The research team's visit indicated a number of areas in need of capacity enhancement among key actors in the supply chain. These included a need for enhanced data collection/record keeping capacity among local mining services and SAKIMA regarding official production and transit data; a need for reinforcement of POLIMINES' capacity to maintain mine site compliance with validation standards in Numbi and Lumbishi; the weak technical, organisational and operational capacity of the cooperatives; and the need for enhanced awareness and understanding among artisanal miners concerning safe and environmentally and commercially sound mining techniques for tourmaline exploitation. Capacity enhancement to address these shortfalls will vary in terms of resource intensiveness but would be key to ensuring the ability of a formal supply chain to meet and maintain responsible sourcing and commercial expectations.

6. Competition from the informal trade

Competition from the informal trade has, to date, helped to stymie efforts on the part of Congolese stakeholders to formalise the tourmaline trade in the absence of any outside support. The issue of pricing and market access have so far proved determinative of the success of these efforts. Buy-in is needed from stakeholders at all levels, especially traders and diggers. Whilst nearly all stakeholders spoken to expressed an interest in formalising the trade, a number of existing power dynamics and structural issues would need to be addressed. to ensure genuine engagement These include:

- Pre-financing of traders by foreign buyers who have little interest in declaring their purchases in the DRC, knowing that they can do so more cheaply in Rwanda.
- Lack of access to international buyers in the DRC, which reduces market competition and creates the perception of a pricing monopoly for Congolese exporters should traders choose to trade officially. The prospect of greater market access seemed to present a strong incentive for buy-in among traders.
- The need to replace the roulette perspective on tourmaline mining and trading with a confidence amongst relevant parties that they are not being cheated on prices.
- A lack of commercial and technical awareness among Congolese actors regarding how the coloured gemstone trade operates in the competitive international market environment beyond the DRC, including as regards presentation of goods, grading and valuation.
- Potential conflict between the exigencies of the international market, which can require the fast movement of goods, and the timeframes and processes involved in the marketing of gemstones abroad through official channels, such as export clearance procedures and timeframes.

7. Fluctuating production

In addition to issues of fair value, OECD compliance, secure transfer of stones, and ensuring the reliability of partners engaged, considerations for international buyers are likely to include consistency of supply. In the international gemstone market fluctuations in gemstone production levels at sites in terms of quality and quantity can be problematic. This may need to be considered in the context of any responsible sourcing project.

Suggestions for the future

On the basis of the above preliminary findings and analysis, the following present themselves as some possible next steps in the development of responsible sourcing from the localities visited:

Rwangara/Shakubangwa

Short term

- Geological/gemmological production assessment;
- Robust due diligence assessment of all partners, including evaluation of financial flows and political and business links of main partners;
- Engagement of relevant stakeholders (e.g. TUUNGANE) to address outstanding OECD compliance issues;
- Engagement of relevant stakeholders (e.g. SAKIMA and DIVIMINES) to clarify and resolve the situation concerning the payment of miner's cards/fiches d'identification.

Medium term

- Establishment of MoUs with relevant partners, including TUUNGANE, SAKIMA and state actors operating on site and in Ngungu;
- Review of child labour vetting policy and practice;
- Capacity building with all stakeholders concerning coloured gemstone markets and supply chains;
- Capacity building with miners, traders, DIVIMINES, SAESSCAM, CEEC, and SAKIMA on OECD due diligence standards, mining techniques and gemstone valuation;
- Capacity building of cooperative, local mining authorities and SAKIMA on data collection and recording.

Numbi sites

Short term

- Geological/gemmological production assessment;
- A deepening of the present risk analysis;
- Robust due diligence assessment of all partners, including evaluation of financial flows, and political and business links of main partners;
- Engagement of relevant stakeholders to discuss, investigate and monitor the situation regarding:
 - claims of pit ownership by prohibited persons,
 - claims of continued illegal levying of taxes,
 - manner in which security forces are used in the collection of taxes at mine sites;
- Engagement of the relevant actors to reinforce POLIMINES in its ability to ensure the enforcement of mine site compliance.

The Kivus regionally

Short term

- Working sessions with stakeholders identified in this study to sensitise them to the need for formalisation, OECD standards, and the benefits of a responsible supply chain, as well as to outline key challenges, and solicit buy-in and help in determining solutions.

Medium term

- Support and monitor efforts at developing a list of payable taxes for minerals in both provinces;
- Investigate and pilot a system for traceability/chain of custody tracking for tourmaline;

- Investigate how the DRC's gemstone sector might be better regulated to drive efficiencies, growth and formalisation, including through the development of a working group for consultation on the rationalisation of fiscal policies regarding gemstones.
- Engagement with the CEEC and comptoirs to determine the scope for streamlining export processes, stimulating gemstone licensing and furthering the identification of buyers through promotion of the Congolese tourmaline sector;
- Investigate the extent of mining in Virunga region.

ANNEX I: PHOTOGRAPHIC DOCUMENTATION OF CONGOLESE TOURMALINE AND TRADE

The following images were provided by Congolese traders as evidence of the types of tourmaline being extracted and traded in North and South Kivu. Classifications under each picture are classifications designated by the traders in possession of the stones documented.



A: *Negociant* alley, Numbi town (2015)



B: Green and pink "top" quality tourmaline purchased in Numbi (2015)



D: "M1" quality tourmaline from Numbi including bicolours (2015)



C: "M1" quality tourmaline purchased in Lumbishi and Numbi (2015)



E: "MTriage" quality tourmaline from Lumbishi (2015)



F: *Dechet* quality tourmaline from North and South Kivu (2015)



G: *Dechet* quality tourmaline from Rwangara/Shakubangwa and Manono territory (2015)

ANNEX II: PHOTOGRAPHIC DOCUMENTATION OF SITE VISIT TO RWANGARA/SHAKUBANGWA, NORTH KIVU

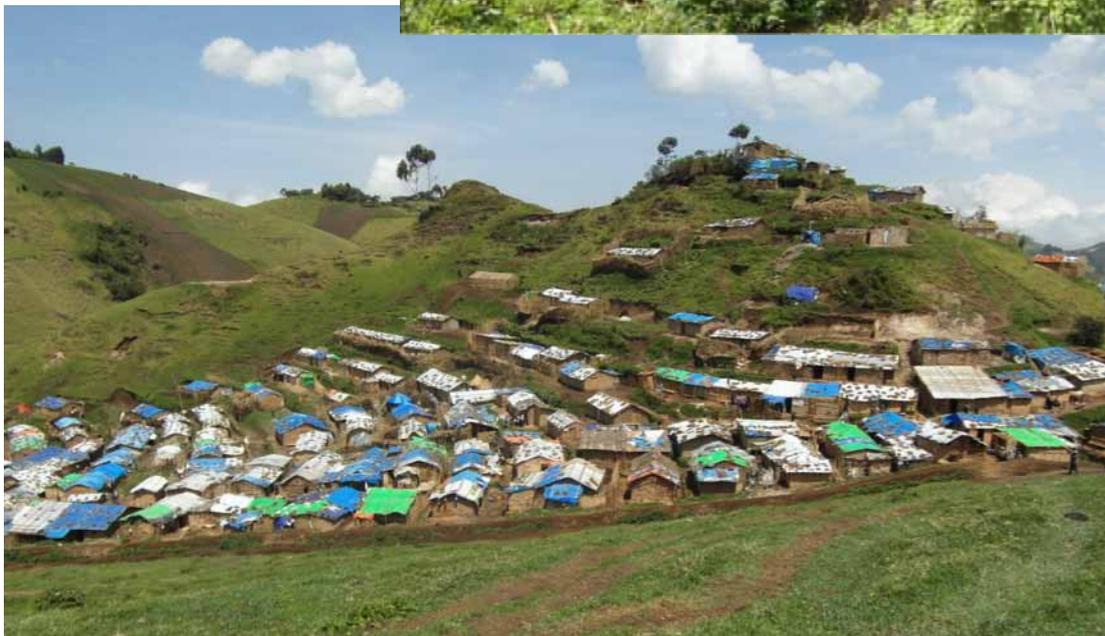


A: Closest town to site that is accessible by motorbike, Luzirantaka (IPIS, 2015)

B: Route from Luzirandaka town to Rwangara/Shakubangwa site (IPIS, 2015)



C: Rwangara/Shakubangwa support village (IPIS, 2015)





D: Rwangara/Shakubangwa southwest side (older tunnel exploitation) (IPIS, 2015)



E: Rwangara/Shakubangwa northeast side (newer open pit exploitation) (IPIS, 2015)



F: Tunnels on southwest side of the mine with pit shelters and water pump visible (IPIS, 2015)



G: Open pit mining on northeast side with water pump visible (IPIS, 2015)



H: Shelters over mine shafts to prevent water ingress (IPIS, 2015)

I: Remains of attempt to use water to sever mountainside to reach mineralised soil (IPIS, 2015)

J: Open pit digging techniques: tools (IPIS, 2015)



ANNEX III: PHOTOGRAPHIC DOCUMENTATION OF SITE VISITS TO NUMBI AND LUMBISHI SITES, SOUTH KIVU

1: FUNGAMWAKA I & II



Image A: Fungamwaka II with water pump in operation (IPIS, 2015)

Image B: Fungamwaka II water techniques (IPIS, 2015)



Image F: Local market visible from Fungamwaka and Kishanga sites (IPIS, 2015)

2 – KISHANGA II



Image A: One section of Kishanga (IPIS, 2015)



Image B: Kishanga digging techniques (IPIS, 2015)

3: CHEZ MADAME

Image A: Chez Madame with water pump in operation (IPIS, 2015)



Image B: Digging techniques at Chez Madame (I) (IPIS, 2015)



Image C: Digging techniques at Chez Madame (II) (IPIS, 2015)



4 - LUMBISHI



Image A: Mining in Lumbishi (IPIS, 2015)



Image B: Use of sluice boxes at Lumbishi (IPIS, 2015)



Image C: Washing at Lumbishi (IPIS, 2015)



Image E: Women washing for dechets (IPIS, 2015)



Image F: Open pit digging at Lumbishi (IPIS, 2015)

Glossary of terms

<i>Comptoir</i>	Trading/buying house that exports minerals.
Concession	An area of land designated by the Congolese Mining Cadastre as an area that can be explored or exploited for designated minerals by a designated entity.
Concessionaire	A natural or legal entity designated under Congolese law as possessing the legal right to explore or exploit minerals within a given area under an exploration or exploitation permit issued by the Congolese Mining Cadastre.
(Mining) Cooperative	An association of miners that involves joint ownership by its members, who pursue their common economic and social interests. Since the lifting of the presidential mining ban, artisanal miners are obliged to work in cooperatives.
<i>Déchets</i>	A designation used by Congolese tourmaline miners and traders to refer to the lowest quality tourmaline being produced or traded, generally characterised by small stones (under 1 gram). See Annex I.
<i>Négociant</i>	A trader engaged in the purchase and sale of minerals.
Pit captain	An individual responsible for the day-to-day oversight of exploitation at a pit.
Pit owner	An individual designated under a formal or informal agreement as having proprietary rights over minerals produced by artisanal workers exploiting a pit.
<i>Triage</i>	A designation used by Congolese tourmaline miners and traders to refer to lower mid-quality tourmaline when considering issues of size, clarity and inclusions. See Annex I.